VX VIDEX®
THE POWER TO SECURE

VR GSM AUDIO INTERCOM KIT

4000 Series Vandal Resistant GSM Audio Intercom

with Proximity Facility

GSMVRK
GSMVRKC

Technical Manual

⚠ **We recommend**
This equipment is installed by a Competent Electrician, Security or Communications Engineer.

Declaration of Conformity

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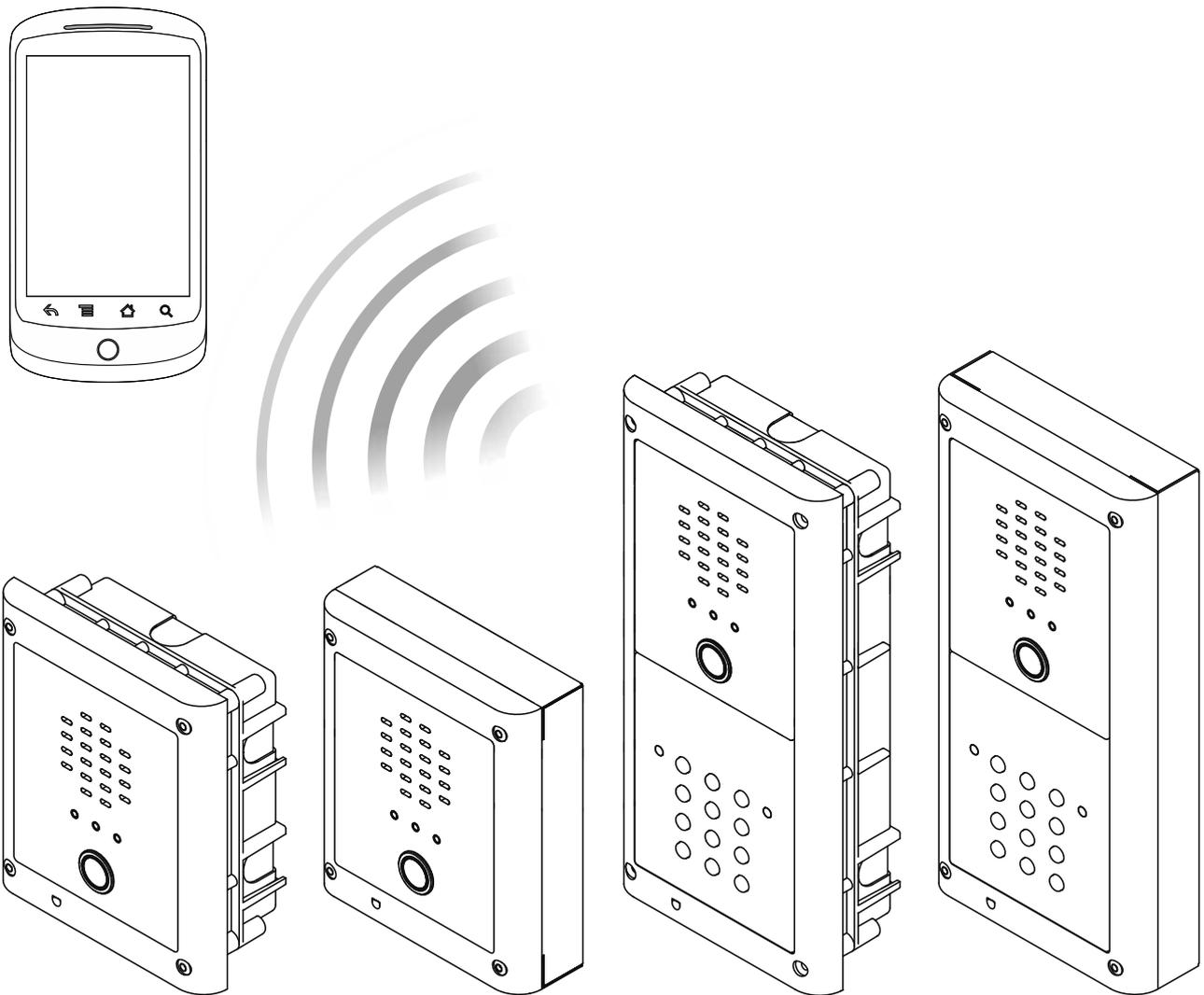
EU RoHS DECLARATION OF CONFORMITY

2G version

Telit Communications certifies that the GL865-QUAD V3 (Quad Band GSM850/EGSM900/DCS1800/PCS1900 GPRS Wireless Module) is in conformity with Directive 2011/65/EU of the European Parliament and the Council of 8th June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. The conformity with the applicable requirements of the Directive 2011/65/EU has been demonstrated against the following harmonized standard: EN 50581:2012 Technical Documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

3G version

Telit Communications certifies that the UL865-EUR (Dual Band 2G EGSM900/DCS1800 and Dual Band 3G FDD I/FDD VIII Wireless Module) is in compliance with the essential requirements and other relevant provisions of European Directive 1999/5/EC (R&TTE). The conformity with the essential requirements of the Directive 1999/5/EC has been demonstrated against the following harmonized standards:

Article of Directive 1999/5/EC	Harmonized Standard Reference
Health & Safety (R&TTE art. 3.1a)	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + AC2011 EN 62311:2008
EMC (R&TTE art. 3.1b)	EN 301 489-1 V1.9.2 EN 301 489-7 V1.3.1 EN 301 489-24 V1.5.1
RF Spectrum use (R&TTE art. 3.2)	EN 301 511 V9.02 EN 301 908-1 V5.2.1 EN 301 908-2 V5.2.1

⚠

WARNING!

To comply with FCC RF exposure requirements, a separation distance of 20cm (7.87") or more must be maintained between the antenna of this product and all persons.

Separate FCC approval for this product is not required as it will be classed as a fixed installation.

THIS PRODUCT IS NOT DESIGNED TO BE USED AS AN EMERGENCY CALL POINT.

MANUFACTURER

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SGS
ISO 9001
Cert. N. IT05/1217

made in
ITALY

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CE The product is CE marked demonstrating its conformity and is for distribution within all member states of the EU with no restrictions. This product follows the provisions of the European Directives 2014/30/EU (EMC); 2014/35/EU (LVD); 2011/65/EU (RoHS): CE marking 93/68/EEC.

Contents

Introduction

MANUAL INTRODUCTION

The information in this manual is intended as an installation and commissioning guide for the 4000 series vandal resistant GSM audio intercom system. This manual should be read carefully before the installation commences. Any damage caused to the equipment due to faulty installation where the information in this manual has not been followed is not the responsibility of Videx Security Ltd.

It is recommended that the vandal resistant GSM audio intercom is installed by a competent electrician, security or communications engineer.

For UK customers Videx run free training courses for engineers who are unfamiliar or who have not installed this system before. Technical help is also available on tel: 0191 224 3174 during office hours (8:30am - 5:00pm MON to FRI) or via e-mail: ***tech@videxuk.com.***

A copy of this Technical Manual can also be downloaded from the Videx website: ***www.videxuk.com, www.videx.it.***

SYSTEM INTRODUCTION

The 4000 series vandal resistant GSM is designed to work on the same technology as mobile phones. It enables a call to be made from an entry point (door, gate etc), to any telephone number (mobile or land line). Up to 24 users can be programmed into the door panel, each able to call up to four telephone numbers (if the primary number is busy or not answered, the call can be diverted through to up to three different divert numbers). The standard vandal resistant GSM works on a 2G network. A 3G variant is also available (suffix **/3G** to the part number e.g. **Art.VR4KGSM-0/3G**, **Art.VR4KGSM-1/3G** etc.).

Key features of the system include:

- Vandal resistant brushed stainless steel (2.5mm thick) front panel for the 4000 series range.

- Call progress LED indication.

- Dial to Open facility (this feature enables up to 1000 stored numbers to dial the GSM intercom, the intercom panel will not answer these calls, but will activate the door/gate relay without being charged for the call).

- Micro-USB connection (for ease of programming using the GSMSK PC software).

- Wiegand proximity connection feature (allows connection of a Wiegand proximity reader to store up to 1000 fobs/cards, these cards when presented to the reader will activate the door/gate).

- VR4KDM (UIM138/MODULE) interface connection for additional call progress indication and voice annunciation.

- A dry contact relay.

- A switched 0V auxiliary input (AI).

- An open collector auxiliary output (AO).

- Push to exit input.

- 24 programmable buttons (each with 4 numbers, 1 primary and 3 diverts).

- Programmable timeband facility.

- Integrated bootloader function (for updating the GSM intercom firmware via the GSMSK PC software).

- Event logging system (which can record up to 4000 events).

Programming of the telephone numbers and the additional features, including programming key fobs/cards for the Wiegand proximity access, can be carried out via text messaging (refer to pages 38 to 48) or PC using the GSMSK PC software (refer to the **GSMSK_66251720_EN_V1-3** software manual or later version).

SIM CARD SELECTION

A SIM card is required for this product but not supplied by Videx. The GSM intercom can only accept a standard size SIM card (refer to the following SIM card size chart on page 5), both a micro-SIM and nano-SIM are not suitable. It is recommended to choose the SIM card which has the best coverage for the area in which the intercom panel will be installed. Both contract and 'Pay as you go' SIM cards can be used, however if using a 'Pay as you go' we would recommend setting up an automatic top up to avoid running short on credit and losing the use of the intercom panel. Alternatively if you already have a contract mobile phone it should be possible to get a second SIM card and telephone number on the existing account. For more information contact the SIM card provider or visit their web sites.

Standard SIM	Micro-SIM	Nano-SIM
25mm 15mm ☑	15mm 12mm ☒	12.3mm 8.8mm ☒
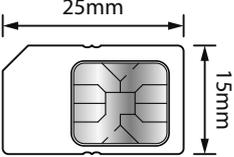
NETWORK PROVIDER SELECTION

It is imperative that for the reliable operation of the system that the best network provider for the area is selected. Problems such as network disconnection can occur if the provider has signal or interference problems for that area. We would recommend using a GSM signal strength meter (not supplied by Videx) to survey the intended antenna location. Contact Videx for more information on where to purchase a tester.

For UK customers, as an initial check we also recommend visiting the ofcom website ***www.ofcom.org.uk*** and follow the onsite links to their online mobile coverage tool. This tool will advise on the best coverage for the main network providers and other general queries that you may have about the service provider.

For customers from other countries we suggest consulting the website of the network provider that will be used to check the coverage.

The antenna should always be mounted vertically at the highest point possible. Metal structures and sources of interference such as power cables, control panels etc. can affect signals and so the antenna should be mounted away from these.

PRECAUTIONARY ADVICE

- When mounting the GSM antenna, choose a location which is away from human interaction and away from the intercom panel. Route the GSM antenna cable from the intercom panel so that it is separate from the power supply cables and microphone wire.

- Always ensure the power is switched OFF to the intercom panel before inserting or removing the SIM card.

- New SIM cards will need registering with the network service provider before they can be used. Full details of how this is done can normally be found in the SIM card pack. It will normally require that the SIM card is inserted into a mobile phone, a number dialled and instructions followed. While the SIM is in the mobile phone it would be a good time to disable any PIN codes, call diverts, ring back and disable features such as voicemail and text alerts. Details of how to do this can be found on the SIM card provider's web site or by calling their customer services. Recommended SIM card providers are: Vodafone, T-Mobile, O2 or Orange/EE. **The 3 network can only be used on our 3G devices (Art.VR4KGSM-1/3G etc.), also refer to page 6.**

- To be able to receive text messages from the intercom panel, the SIM card will require an SMS service centre number. This is normally preinstalled on new SIM cards but if you are having trouble receiving SMS messages you will need to confirm this by inserting the SIM card into a mobile phone and using the phones menu options to check it. If a number is not programmed then it should be programmed while in the phone (the number can be obtained from the network service provider).

- Voicemail and text alerts must be switched OFF on the SIM card when using the dial in to release the door/gate feature. For Vodafone and O2 this can be done while the SIM card is in the intercom panel. For Orange/EE, T-Mobile and other providers the SIM card must be removed from the intercom panel, inserted into a mobile phone and the mobile phone menu instructions followed.

- When storing the intercom panel's telephone number in your own mobile phone avoid using an obvious name such as 'Front Door, or 'My Gate' as this would make it easy to decipher if your phone was lost or stolen.

- The PIN request feature must be disabled on the SIM card before using it in the Intercom panel. It is likely on a new SIM card that it will not be enabled but if it is, it will prevent the system from working at all.

- This product may not be suitable for installation in hospitals, health care facilities or in the presence of flammable gases or liquids. Seek advice and authorisation before installing this product in these locations. **This product is not designed to be used as an emergency call point.**

Network provider and services configuration codes mentioned in this manual are specific for the UK. For overseas customers please contact the network provider of your country for the corresponding codes.

IMPORTANT NOTE ABOUT THE SIM

When using a pay monthly SIM card you must ask the service provider to put a spend limit (credit limit) on the account (Vodafone call this service 'spend checker'). This is to safeguard against possible problems which could result in a large phone bill at the end of the month. All providers offer this service. You will need to either ring them or e-mail them to set this up. Automatic top ups should also have a monthly limit. We would suggest a limit of £50.00 which should be more than enough. This service is not provided by Videx.

System Components and Available Versions

DESCRIPTION

A system comprises of an intercom panel, power supply, SIM card (SIM card not provided by Videx) and antenna. The intercom panel is part of the Videx 4000 series vandal resistant modular design allowing it to be customised to the installation requirements for example including coded access or including the correct number of call buttons (up to 24 call buttons).

## ART. VR4KGSM (ART. 150) INTERCOM AVAILABLE VERSIONS

The intercom panel can include any of the modules from the 4000 series vandal resistant range and uses the standard 4000 series surface and flush mounting frames. The GSM module is however essential and includes all the GSM communication electronics, SIM card (supplied separately) and connections. The intercom module is available in a 0 button, 1 button, 2 button, 3 button and 1 button with nameplate configuration, as shown in **Fig.1**, along with their part numbers.

| VR4KGSM-0 VR4KGSM-0/3G | VR4KGSM-1 VR4KGSM-1/Y VR4KGSM-1/3G VR4KGSM-1/Y/3G | VR4KGSM-2 VR4KGSM-2/Y VR4KGSM-2/3G VR4KGSM-2/Y/3G | VR4KGSM-3 VR4KGSM-3/Y VR4KGSM-3/3G VR4KGSM-3/Y/3G | VR4KGSM-1NP VR4KGSM-1NP/3G |
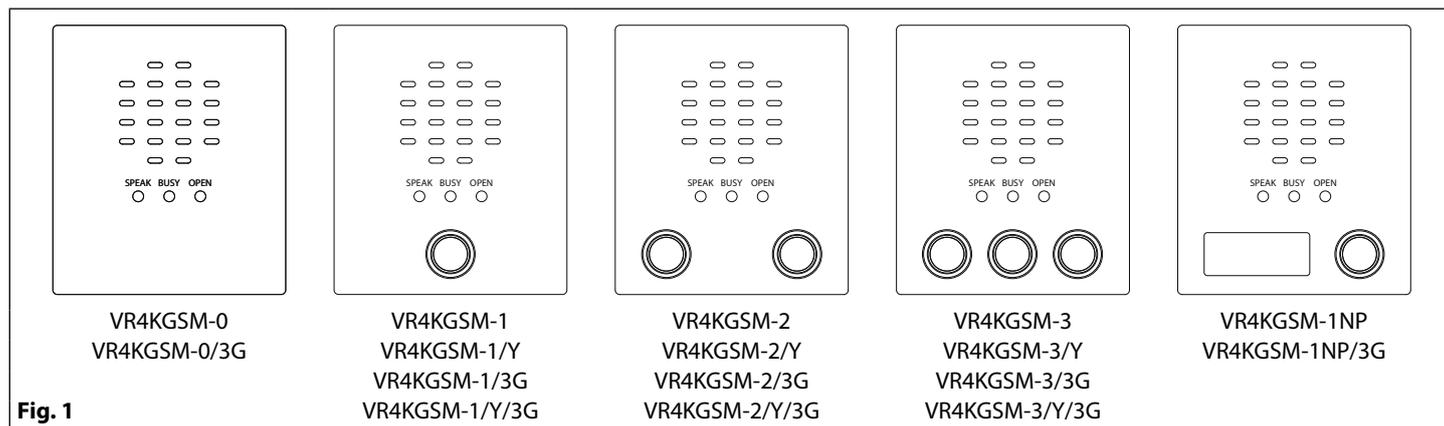
Fig. 1

Standard versions of the VR4KGSM modules (e.g. **VR4KGSM-0** etc.) works on a 2G network A 3G variant is also available (see **Fig.1** above) that works on a 3G network, suffix **/3G** to the part number as shown.

EXTENSION BUTTON MODULES

The GSM intercom module will accept up to 24 call buttons. Any of the standard 4000 series vandal resistant button modules can be used as shown in **Fig.2** along with their part numbers.

| VR4KBM-4 VR4KBM-4/Y | VR4KBM-5 VR4KBM-5/Y | VR4KBM-6 VR4KBM-6/Y | VR4KBM-7 VR4KBM-7/Y | VR4KBM-8 VR4KBM-8/Y |
| VR4KBM-9 VR4KBM-9/Y | VR4KBM-2NP | VR4KBM-3NP | VR4KBM-4NP | |
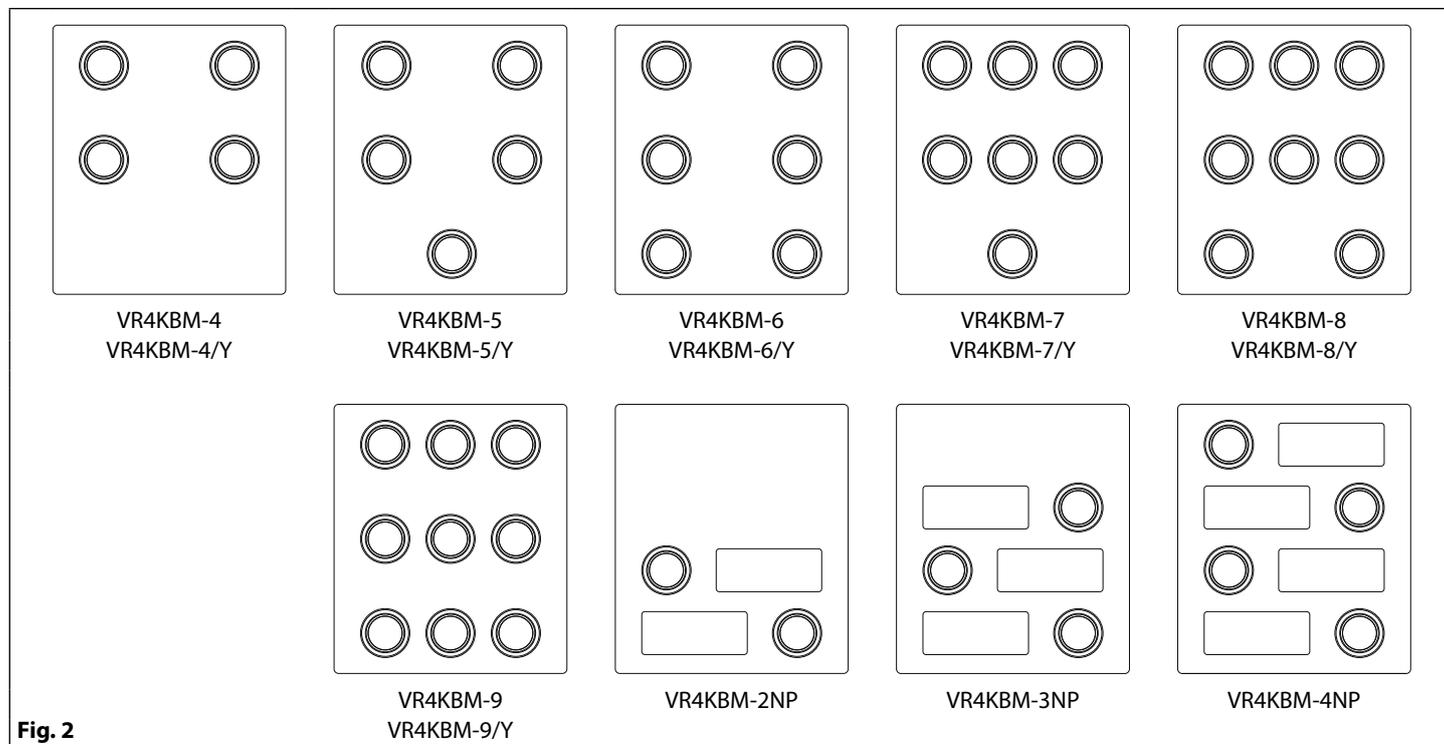
Fig. 2

Button connections to the GSM module are shown in **Fig.3** on page 7 (only the wiring of the button harness is shown). It is important to take care when using additional button modules with a GSM intercom module which also has onboard buttons. For example, an intercom module with one button (VR4KGSM-1) means the extension button module used must start wiring from button 2 on the button harness (the green "b" and white "1" wires would be used), an intercom module with 2 buttons (VR4KGSM-2) means the extension button module used must start wiring from button 3 on the button harness (the blue "c" and white "1" wires would be used) and so on.

BUTTON HARNESS WIRING
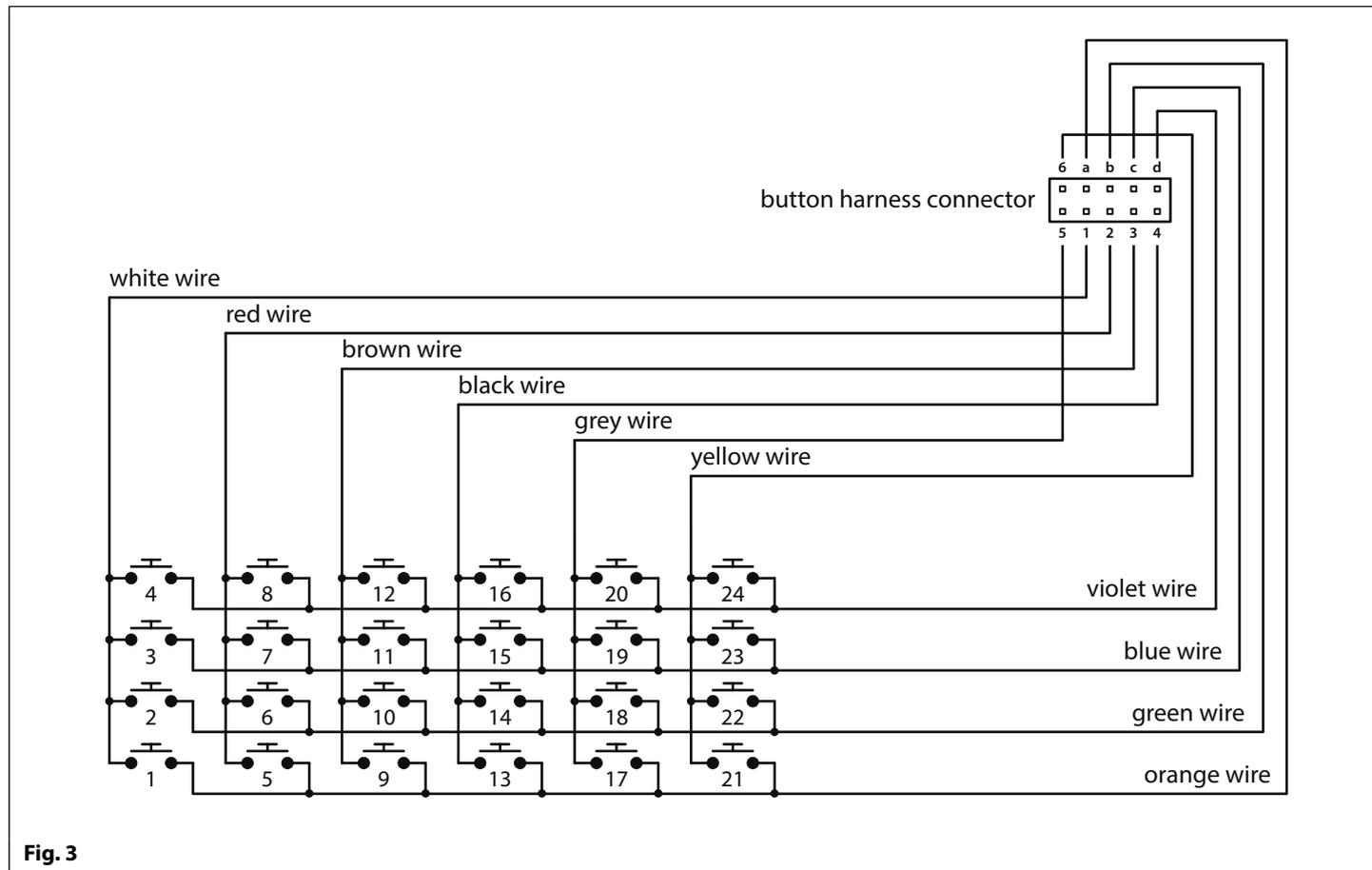
Fig. 3

BUTTON MODULE NOTES

If the GSM module has 1 button (VR4KGSM-1), the additional button module buttons should be wired starting from button number 2 (i.e. the first button of the button module should be connected using the green "b" and white "1" wires, the next button using the blue "c" and white "1" wires etc.).

If the GSM module has 2 buttons (VR4KGSM-2), the additional button module buttons should be wired starting from button number 3 (i.e. the first button of the button module should be connected using the blue "c" and white "1" wires, the next button using the violet "d" and white "1" wires etc.).

If the GSM module has 3 buttons (VR4KGSM-3), the additional button module buttons should be wired starting from button number 4 (i.e. the first button of the button module should be connected using the violet "d" and white "1" wires, the next button using the orange "a" and pink "2" wires etc.).

The button harness table below can also be used to determine the required button module wiring.

| Button No.	Harness Connector Pins	Wire Colours	Button No.	Harness Connector Pins	Wire Colours
1	a - 1	orange / white	13	a - 4	orange / black
2	b - 1	green / white	14	b - 4	green / black
3	c - 1	blue / white	15	c - 4	blue / black
4	d - 1	violet / white	16	d - 4	violet / black
5	a - 2	orange / red	17	a - 5	orange / grey
6	b - 2	green / red	18	b - 5	green / grey
7	c - 2	blue / red	19	c - 5	blue / grey
8	d - 2	violet / red	20	d - 5	violet / grey
9	a - 3	orange / brown	21	a - 6	orange / yellow
10	b - 3	green / brown	22	b - 6	green / yellow
11	c - 3	blue / brown	23	c - 6	blue / yellow
12	d - 3	violet / brown	24	d - 6	violet / yellow

4000 SERIES BACK BOXES AND MOUNTING FRAMES

Both surface and flush back boxes and mounting frames are available. The size of the frame will depend on the number of modules that make up the GSMVRK/GSMVRKC kit. The last digit of the frame code indicates the number of modules it will take. Frames are available in gun metal gray finish, chrome finish (suffix \C to the frame code) or gold finish (suffix \G to the frame code). The 4000 series mounting frames available are shown in **Fig.4** (flush) and **Fig.5** (surface) with the following tables showing the back box dimensions.

Flush Back Boxes and Mounting Frames

Art. 4851   Art. 4852   Art. 4853
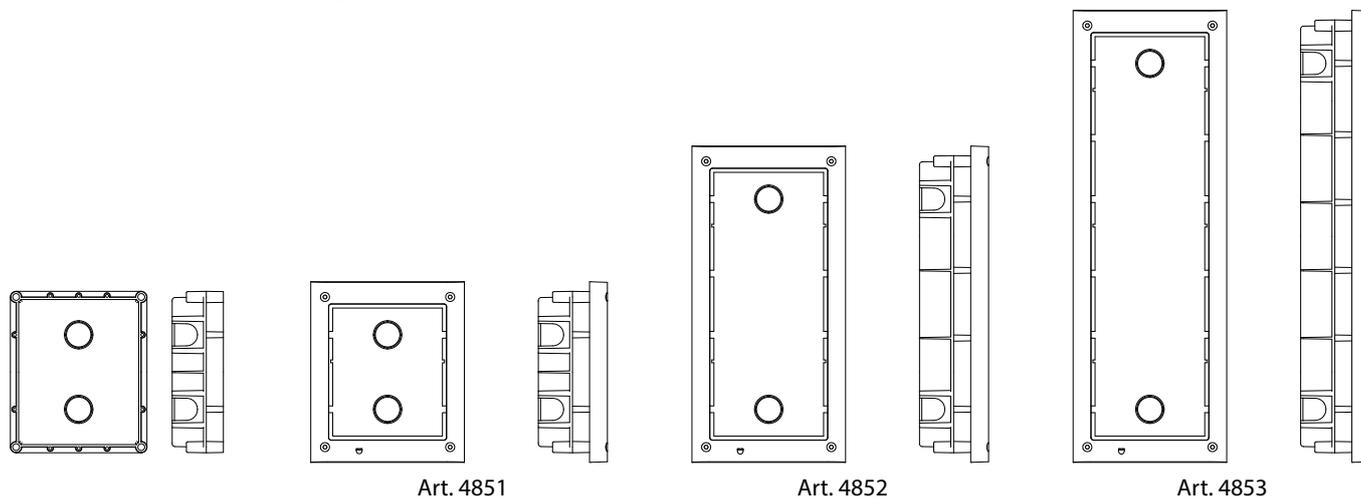
Fig. 4

Flush Back Box Dimensions

Part No.	Housed Modules	Front Frame *(W x H x D)* mm	Back Box *(W x H x D)* mm
Art.4851	1	135 x 160 x 15.7	120 x 143 x 46
Art.4852	2	135 x 280.2 x 15.7	120 x 263.2 x 46
Art.4853	3	135 x 400.4 x 15.7	120 x 383.4 x 46

Surface Back Boxes and Mounting Frames

Art. 4881   Art. 4882   Art. 4883   Art. 4884   Art. 4886   Art. 4889

**Fig. 5**

System Components and Available Versions

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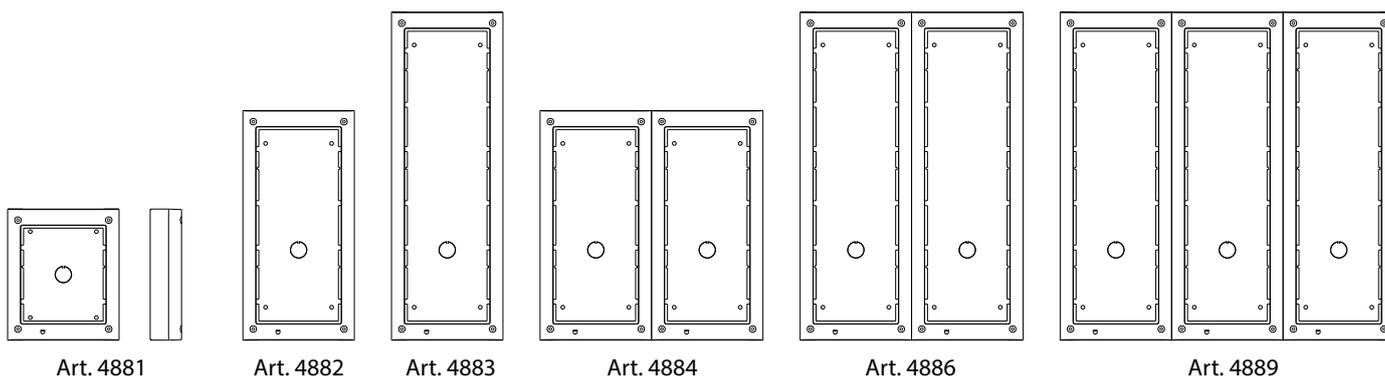
Surface Back Box Dimensions

Part No.	Housed Modules	No. of Columns	Back Box *(W x H x D)* mm
Art.4881	1	1	135 x 160 x 43
Art.4882	2	1	135 x 280.2 x 43
Art.4883	3	1	135 x 400.4 x 43
Art.4884	4	2	270 x 280.2 x 43
Art.4886	6	2	270 x 400.4 x 43
Art.4889	9	3	405 x 400.4 x 43

DL-15-12, 12VDC 1.25A POWER SUPPLY

The VR4KGSM (Art.150) module is designed to work with power supplies in the range of 12Vdc-14Vdc and should be capable of supplying a constant current of no less than 1.25A. Both the GSMVRK and GSMVRKC kits are supplied with a 12Vdc 1.25A power supply the DL-15-12 psu (refer to **Fig.6**).

Fig. 6
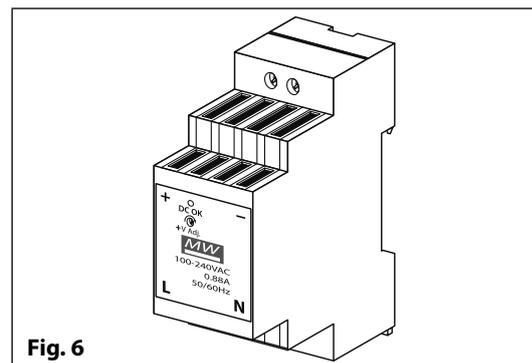
ART. 432 GSM ANTENNA

The Art.432 GSM antenna connects to the SMA female bulkhead connection on the rear of the Art.150 GSM module. A GSM antenna with an SMA male connector should be used (refer to **Fig.7**).

Antenna Parts

1. GSM antenna with magnetic base.

2. Self-threading screw *(Ø3.5mm x 9.5mm)*.

3. Aluminium L bracket for mounting.

4. SMA male connector *(cable length 2.5m)*.

5. Expansion type wall plugs *(Ø6mm)*.

6. Self-threading screw *(Ø4mm x 30mm)*.

7. Right angled SMA adapter.

<u>IMPORTANT NOTE:</u> **An antenna must always be fitted for the GSM module to work. Always route the GSM antenna cable away from the microphone wires and the power supply wires to avoid interference on the speech channels.**

In instances where there is a tight fitting space for the SMA male connector on the antenna cable the right angled SMA adapter can be used to help reroute the cable down the back side of the GSM module.

SMA female bulkhead connection on rear of VR4KGSM module

Antenna

Fig. 7

System Components and Available Versions

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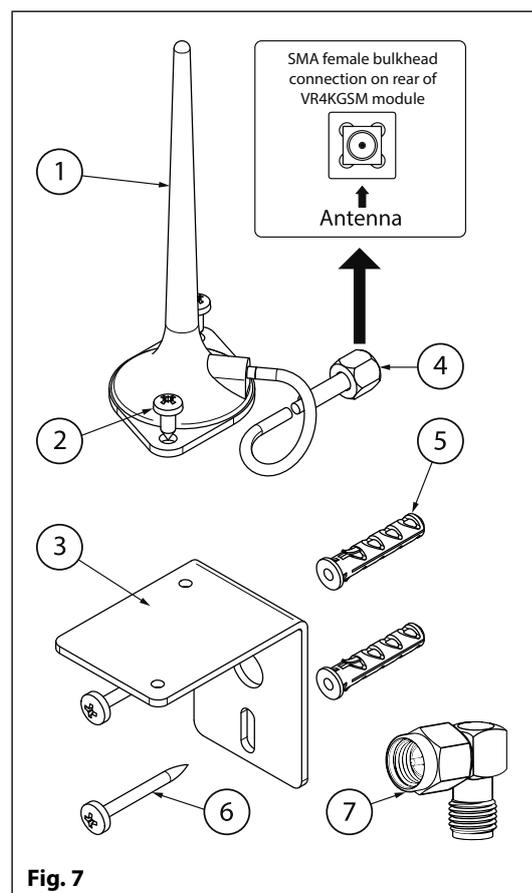
ART. VR4KCLM CODELOCK

The VR4KCLM codelock module (included as part of the GSMVRKC kits), see **Fig.8**, can be powered from 12-24V AC or DC and includes three dry contact relay outputs and two switched 0V push to exit inputs which can be used to trigger relay 1 & 2.

One code per relay can be programmed into the device. Codes can be between 4 - 8 digits long.

The relay time can be 01 - 99 seconds or set for latching (00). When in latching mode, enter the code followed by 'ENTER' to latch the relay and the code followed by 'CLEAR' to unlatch the relay.
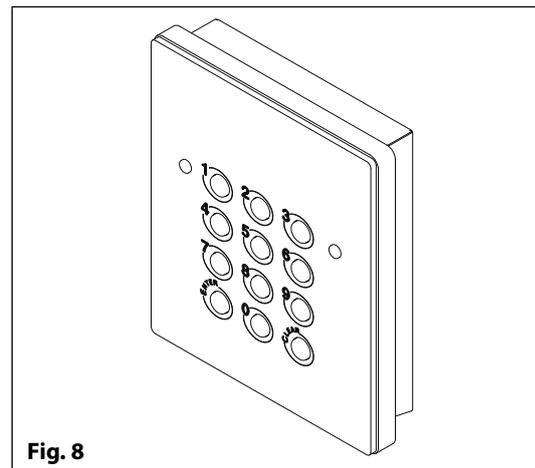
Fig. 8

VANDAL RESISTANT GSM INTERCOM AUDIO KITS

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<td rowspan="2">ONE WAY VERSIONS</td>
<td colspan="3">GSMVRK-1 - flush mounting</td>
</tr>
<tr>
<td>1 Outdoor station composed of:
1 Art. VR4KGSM-1:   1 button VR GSM unit
1 Art. 4851:   Flush mounting box</td>
<td>1 GSM antenna
Art. 432</td>
<td>1 Power supply
DL-15-12
12Vdc 1.25A</td>
</tr>
<tr>
<td rowspan="2">ONE WAY VERSIONS</td>
<td colspan="3">GSMVRK-1S - surface mounting</td>
</tr>
<tr>
<td>1 Outdoor station composed of:
1 Art. VR4KGSM-1:   1 button VR GSM unit
1 Art. 4881:   Surface mounting box</td>
<td>1 GSM antenna
Art. 432</td>
<td>1 Power supply
DL-15-12
12Vdc 1.25A</td>
</tr>
<tr>
<td rowspan="2">TWO WAY VERSIONS</td>
<td colspan="3">GSMVRK-2 - flush mounting</td>
</tr>
<tr>
<td>1 Outdoor station composed of:
1 Art. VR4KGSM-2:   2 button VR GSM unit
1 Art. 4851:   Flush mounting box</td>
<td>1 GSM antenna
Art. 432</td>
<td>1 Power supply
DL-15-12
12Vdc 1.25A</td>
</tr>
<tr>
<td colspan="3">GSMVRK-2S - surface mounting</td>
</tr>
<tr>
<td>1 Outdoor station composed of:
1 Art. VR4KGSM-2:   2 button VR GSM unit
1 Art. 4881:   Surface mounting box</td>
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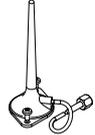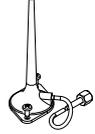
	GSMVRKC-1 - flush mounting		
ONE WAY VERSIONS	**1 Outdoor station** composed of: 1 Art. VR4KGSM-1: 1 button VR GSM unit 1 Art. VR4KCLM-1: VR4K series codelock 1 Art. 4852: Flush mounting box	**1 GSM antenna** Art. 432	**1 Power supply** DL-15-12 12Vdc 1.25A
	GSMVRKC-1S - surface mounting		
	1 Outdoor station composed of: 1 Art. VR4KGSM-1: 1 button VR GSM unit 1 Art. VR4KCLM-1: VR4K series codelock 1 Art. 4882: Surface mounting box	**1 GSM antenna** Art. 432	**1 Power supply** DL-15-12 12Vdc 1.25A
TWO WAY VERSIONS	**GSMVRKC-2 - flush mounting**		
	1 Outdoor station composed of: 1 Art. VR4KGSM-2: 2 button VR GSM unit 1 Art. VR4KCLM-1: VR4K series codelock 1 Art. 4852: Flush mounting box	**1 GSM antenna** Art. 432	**1 Power supply** DL-15-12 12Vdc 1.25A
	GSMVRKC-2S - surface mounting		
	1 Outdoor station composed of: 1 Art. VR4KGSM-2: 2 button VR GSM unit 1 Art. VR4KCLM-1: VR4K series codelock 1 Art. 4882: Surface mounting box	**1 GSM antenna** Art. 432	**1 Power supply** DL-15-12 12Vdc 1.25A
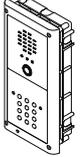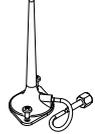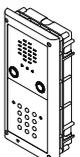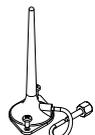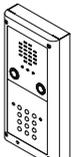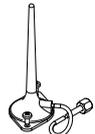
GSMVRK AUDIO KITS

Additional GSMVRK-n (flush) kit versions available from 3 way kits up to 12 way kits: **GSMVRK-3** up to **GSMVRK-12**. Each audio kit comes with the appropriate VR4KGSM module, appropriate extension button module(s) and appropriate flush back box depending on the GSMVRK-n kit required (where n = the number of call buttons), refer to table below.

Additional GSMVRK-nS (surface) kit versions available from 3 way kits up to 12 way kits: **GSMVRK-3S** to **GSMVRK-12S**. Each audio kit comes with the appropriate VR4KGSM module, appropriate extension button module(s) and appropriate surface back box depending on the GSMVRK-nS kit required (where n = the number of call buttons), refer to table below.

	Kit No.	Outdoor station composed of:		Kit No.	Outdoor station composed of:
FLUSH	GSMVRK-3	1 Art.VR4KGSM-3; 1 Art.4851	**SURFACE**	GSMVRK-3S	1 Art.VR4KGSM-3; 1 Art.4881
	GSMVRK-4	1 Art.VR4KGSM-0; 1 Art.VR4KBM-4; 1 Art.4852		GSMVRK-4S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-4; 1 Art.4882
	GSMVRK-5	1 Art.VR4KGSM-0; 1 Art.VR4KBM-5; 1 Art.4852		GSMVRK-5S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-5; 1 Art.4882
	GSMVRK-6	1 Art.VR4KGSM-0; 1 Art.VR4KBM-6; 1 Art.4852		GSMVRK-6S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-6; 1 Art.4882
	GSMVRK-7	1 Art.VR4KGSM-0; 1 Art.VR4KBM-7; 1 Art.4852		GSMVRK-7S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-7; 1 Art.4882
	GSMVRK-8	1 Art.VR4KGSM-0; 1 Art.VR4KBM-8; 1 Art.4852		GSMVRK-8S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-8; 1 Art.4882
	GSMVRK-9	1 Art.VR4KGSM-0; 1 Art.VR4KBM-9; 1 Art.4852		GSMVRK-9S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-9; 1 Art.4882
	GSMVRK-10	1 Art.VR4KGSM-1; 1 Art.VR4KBM-9; 1 Art.4852		GSMVRK-10S	1 Art.VR4KGSM-1; 1 Art.VR4KBM-9; 1 Art.4882
	GSMVRK-11	1 Art.VR4KGSM-2; 1 Art.VR4KBM-9; 1 Art.4852		GSMVRK-11S	1 Art.VR4KGSM-2; 1 Art.VR4KBM-9; 1 Art.4882
	GSMVRK-12	1 Art.VR4KGSM-3; 1 Art.VR4KBM-9; 1 Art.4852		GSMVRK-12S	1 Art.VR4KGSM-3; 1 Art.VR4KBM-9; 1 Art.4882

GSMVRKC AUDIO KITS

Additional GSMVRKC-n (flush) kit versions available from 3 way kits up to 12 way kits: **GSMVRKC-3** up to **GSMVRKC-12**. Each audio kit comes with the appropriate VR4KGSM module, appropriate extension button module(s), VR4KCLM codelock module and appropriate flush back box depending on the GSMVRKC-n kit required (where n = the number of call buttons), refer to table of page 12.

Additional GSMVRKC-nS (surface) kit versions available from 3 way kits up to 12 way kits: **GSMVRK-3S** to **GSMVRK-12S**. Each audio kit comes with the appropriate VR4KGSM module, appropriate extension button module(s), VR4KCLM codelock module and appropriate surface back box depending on the GSMVRKC-nS kit required (where n = the number of call buttons), refer to table on page 12.

System Components and Available Versions

	Kit No.	Outdoor station composed of:		Kit No.	Outdoor station composed of:
FLUSH	GSMVRKC-3	1 Art.VR4KGSM-3; 1 Art.VR4KCLM; 1 Art.4852	**SURFACE**	GSMVRKC-3S	1 Art.VR4KGSM-3; 1 Art.VR4KCLM; 1 Art.4882
	GSMVRKC-4	1 Art.VR4KGSM-0; 1 Art.VR4KBM-4; 1 Art.VR4KCLM; 1 Art.4853		GSMVRKC-4S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-4; 1 Art.VR4KCLM; 1 Art.4883
	GSMVRKC-5	1 Art.VR4KGSM-0; 1 Art.VR4KBM-5; 1 Art.VR4KCLM; 1 Art.4853		GSMVRKC-5S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-5; 1 Art.VR4KCLM; 1 Art.4883
	GSMVRKC-6	1 Art.VR4KGSM-0; 1 Art.VR4KBM-6; 1 Art.VR4KCLM; 1 Art.4853		GSMVRKC-6S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-6; 1 Art.VR4KCLM; 1 Art.4883
	GSMVRKC-7	1 Art.VR4KGSM-0; 1 Art.VR4KBM-7; 1 Art.VR4KCLM; 1 Art.4853		GSMVRKC-7S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-7; 1 Art.VR4KCLM; 1 Art.4883
	GSMVRKC-8	1 Art.VR4KGSM-0; 1 Art.VR4KBM-8; 1 Art.VR4KCLM; 1 Art.4853		GSMVRKC-8S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-8; 1 Art.VR4KCLM; 1 Art.4883
	GSMVRKC-9	1 Art.VR4KGSM-0; 1 Art.VR4KBM-9; 1 Art.VR4KCLM; 1 Art.4853		GSMVRKC-9S	1 Art.VR4KGSM-0; 1 Art.VR4KBM-9; 1 Art.VR4KCLM; 1 Art.4883
	GSMVRKC-10	1 Art.VR4KGSM-1; 1 Art.VR4KBM-9; 1 Art.VR4KCLM; 1 Art.4853		GSMVRKC-10S	1 Art.VR4KGSM-1; 1 Art.VR4KBM-9; 1 Art.VR4KCLM; 1 Art.4883
	GSMVRKC-11	1 Art.VR4KGSM-2; 1 Art.VR4KBM-9; 1 Art.VR4KCLM; 1 Art.4853		GSMVRKC-11S	1 Art.VR4KGSM-2; 1 Art.VR4KBM-9; 1 Art.VR4KCLM; 1 Art.4883
	GSMVRKC-12	1 Art.VR4KGSM-3; 1 Art.VR4KBM-9; 1 Art.VR4KCLM; 1 Art.4853		GSMVRKC-12S	1 Art.VR4KGSM-3; 1 Art.VR4KBM-9; 1 Art.VR4KCLM; 1 Art.4883

IMPORTANT NOTE: The GSM audio kits listed above work on a 2G network. For the 3G variant remember to suffix the kit part no. with /3G, e.g. GSMVRK-7/3G, GSMVRKC-10S/3G etc.

Technical Information

THE POWER TO SECURE

ART. VR4KGSM MODULE
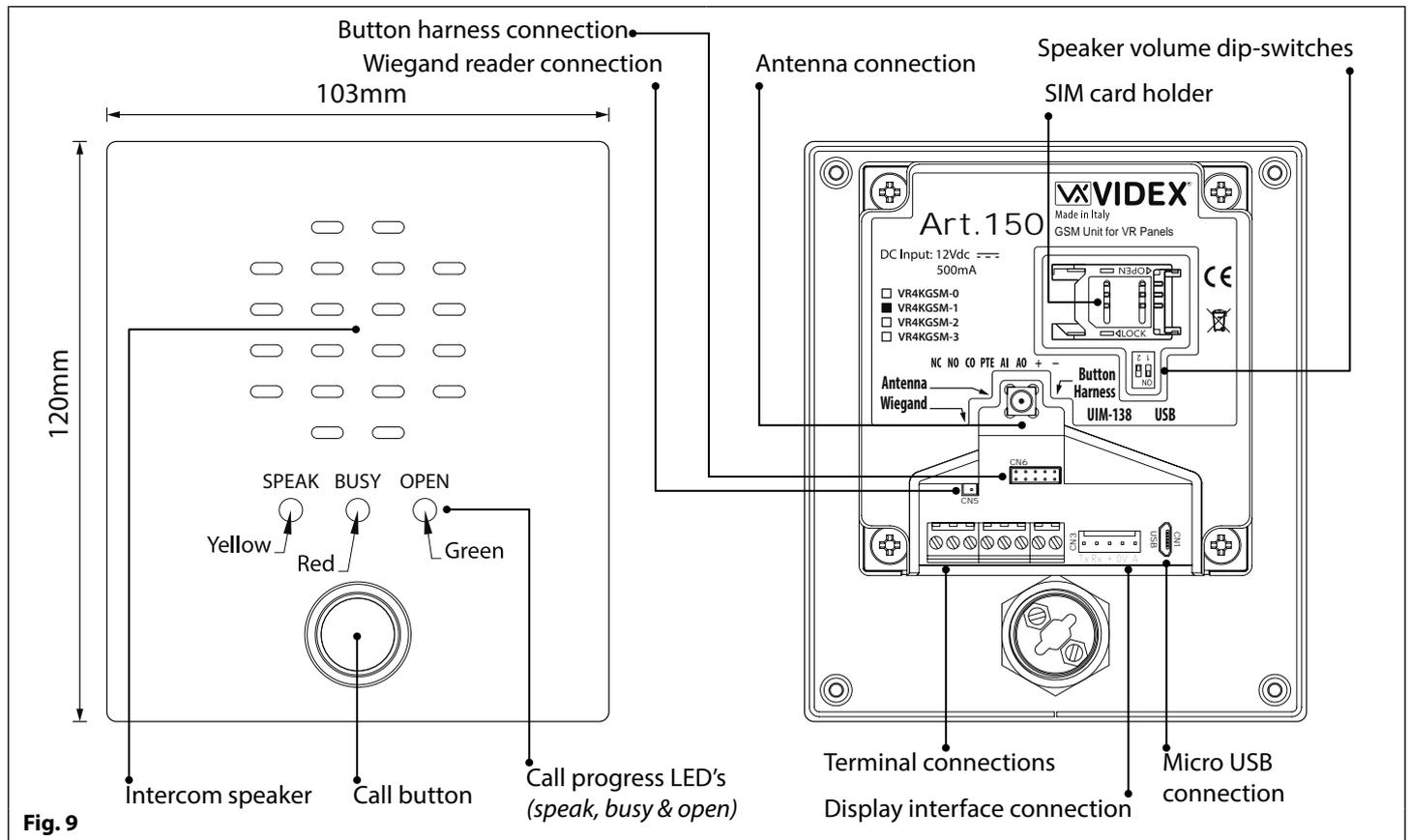
Fig. 9

SPEAKER VOLUME ADJUSTMENT (DIP-SWITCH SETTINGS)

There are 2 dip-switches located on the back of the VR4KGSM module under the SIM card holder, see **Fig.9**. They can be used to adjust the volume from the door intercom speaker (see table below). Additionally, the volume can also be adjusted during a call electronically via the telephone keypad (refer to user command table 1 on page 51).

Dip-Switch	Dip-Switch Status		Gain (dB)
	Dip No.1	Dip No.2	
ON 1 2	ON	ON	6
ON 1 2	ON	OFF	12
ON 1 2	OFF	ON	18
ON 1 2	OFF	OFF	23.5

TERMINAL CONNECTIONS AND HARNESS CONNECTIONS

Terminal	Description	
NC	Normally oclosed relay contact.	Relay contacts: 3A@24Vdc 3A@120Vac
NO	Normally open relay contact.	
CO	Common relay contact.	
PTE	Push to exit input (switched 0V).	
AI	Auxiliary input (switched 0V).	
AO	Auxiliary output (open collector, 150mA max.)	
+	+12Vdc power input (500mA max.)	
−	0V ground power.	
USB	Micro USB connection (CN1).	
UIM-138	Display interface harness connection (CN3).	
Wiegand	Wiegand proximity reader harness connection (CN5).	
Button Harness	Pre-wired button harness connection (CN6). Refer to **Fig.3** and button harness table on page 7 for wiring colour codes and button configurations.	

USB CONNECTION (CN1)

The micro-USB connection allows the VR4KGSM module to be connected to a laptop/PC for ease of programming (refer to page 28 for connecting the GSM module to a laptop/PC). Further information on programming using the GSMSK PC software can be found in the following manual:

GSMSK-66251720-EN-V1-3 (or later version)

UIM-138 (DISPLAY HARNESS INTERFACE CONNECTION, CN3)

The UIM-138 connection allows the VR4KGSM module to be connected to the display interface module, the VR4KDM, (refer to page 20 for connecting the GSM module to a VR4KDM module.

WIEGAND (WIEGAND PROXIMITY READER HARNESS CONNECTION, CN5)

The Wiegand connection allows for a Wiegand proximity reader, the VR4KPPM, to be connected to the VR4KGSM module (refer to page nn for connections). Further information on programming proximity fobs/cards can be found on pages nn - nn of this manual.

BUTTON HARNESS CONNECTIONS (CN6)

The pre-wired button harness is used to connect the buttons and button modules (described on page 6) to the VR4KGSM module. For complete button harness wiring refer to **Fig.3** and the button harness table on page 7.

CALL PROGRESS LED'S

| LED *(sign)*	Description
SPEAK (Yellow)	The speak LED when illuminated, indicates that it is possible to speak because the call has been answered or a call made to the GSM intercom (with the exception of a call from a dial to open (**DTO**) number). The LED will switch OFF at the end of a conversation when the telephone/mobile that has been dialled hangs up or at the end of the call time (**SPT**).
BUSY (Red)	The busy LED when illuminated, indicates that it is not possible to make a call because a call or a conversation is in progress. The LED will be OFF when the system is in standby. If there is power on the GSM intercom and the Art.432 antenna is not connected this LED will flash continuously until the antenna is connected. The LED will flash while connecting to a network and continue to flash until it has found the network.
OPEN (Green)	The open LED when illuminated, indicates that the door lock (GSM relay) has been operated. It will switch OFF at the end of the programmed "door opening" time. The LED will also illuminate and operate the relay (for the programmed relay, **RLT**, time) if a programmed key fob is presented to an off board Wiegand proximity reader that is connected to the Wiegand reader input connections.

TECHNICAL SPECIFICATION

Working Voltage	: 12Vdc +/- 10%
Standby Current	: approx. 60mA
Max. Current	: approx. 500mA (max.)
Call Buttons	: up to 24 (max.)
Telephone Numbers per Button	: 4 telephone numbers (1 primary, 3 diverts)
Dial to Open Numbers	: up to 1000 (max.)
Wiegand Proximity Connection	: 1, for connection of a Wiegand proximity reader the Art.VR4KPPM
Proximity Access (fobs/cards)	: up to 1000 users (max.)
Call Progress LED's	: 4 (busy, call, speak and open)
Programming	: SMS messaging or PC software
Push to Exit	: 1 (switched 0V across terminals PTE/-)
Auxiliary Inputs	: 1 (switched 0V across terminals AI/-)
Auxiliary Outputs	: 1 (AO, open collector output, switched 0V, 150mA max.)
Dry Contact Relay	: 1, 3A @ 24Vdc, 3A @ 120Vac
Event Log	: up to 4000 events
USB Port	: micro USB
Display Module Interface	: 1, for connection of the Art.VR4KDM (UIM-138) display interface module
Timebands	: 1 programmable timeband
Dimensions	: 103mm (W) x 120mm (L) x 37mm (D)
Working Temp.	: -10 +50°C

ART. VR4KCLM-1 CODELOCK MODULE

Fig. 10

green accept LED   keypad   red prog. LED   terminal connections
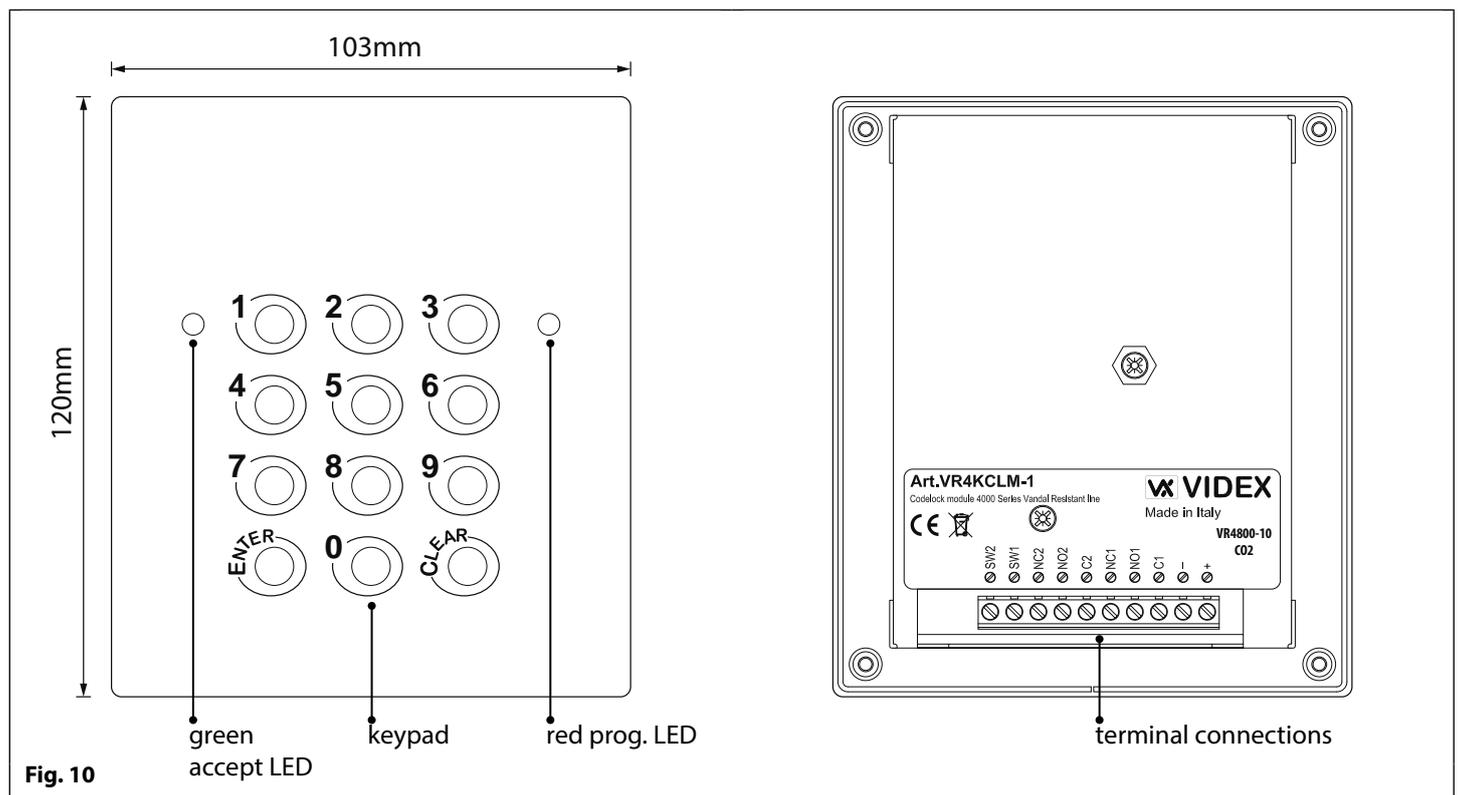
The VR4KCLM-1 codelock module (see **Fig.10**) can be connected to the GSM intercom and is supplied with the GSMVRKC kits. It can be programmed with 2 access codes, one per relay (also see notes on page 10).

TERMINAL CONNECTIONS

Connection	Description	
+	12-24V AC or DC power input	
-	0V power input	
C1	Relay 1 common connection	
NO1	Relay 1 normally open connection	
NC1	Relay 1 normally closed connection	Relay contacts:
C2	Relay 2 common connection	3A@24Vac/dc
NO2	Relay 2 normally open connection	
NC2	Relay 2 normally closed connection	
SW1	Switched 0V input to trigger relay 1	
SW2	Switched 0V input to trigger relay 2	

TECHNICAL SPECIFICATION

Working Voltage   : 12V - 24Vac/dc +/- 10%
Current (standby)   : 20mA
Current (during operation) : 70mA (max.)
Dry Contact Relays   : 2, relay 1 and relay 2, 3A @ 24Vac/dc (max.)
Relay Codes   : 2 (one code per relay, 4 - 6 digits)
Push to Exit   : 2, SW1 and SW2 (switched 0V across terminals SW1/- for relay 1 and SW2/- for relay 2)
Dimensions   : 103mm (W) x 120mm (L) x 40mm (D)
Working Temp.   : -10 +50ºC

CONNECTING THE CODELOCK TO THE GSM INTERCOM

Follow the connections as shown in **Fig.11** when connecting the VR4KCLM-1 codelock to the GSM intercom.


Fig. 11
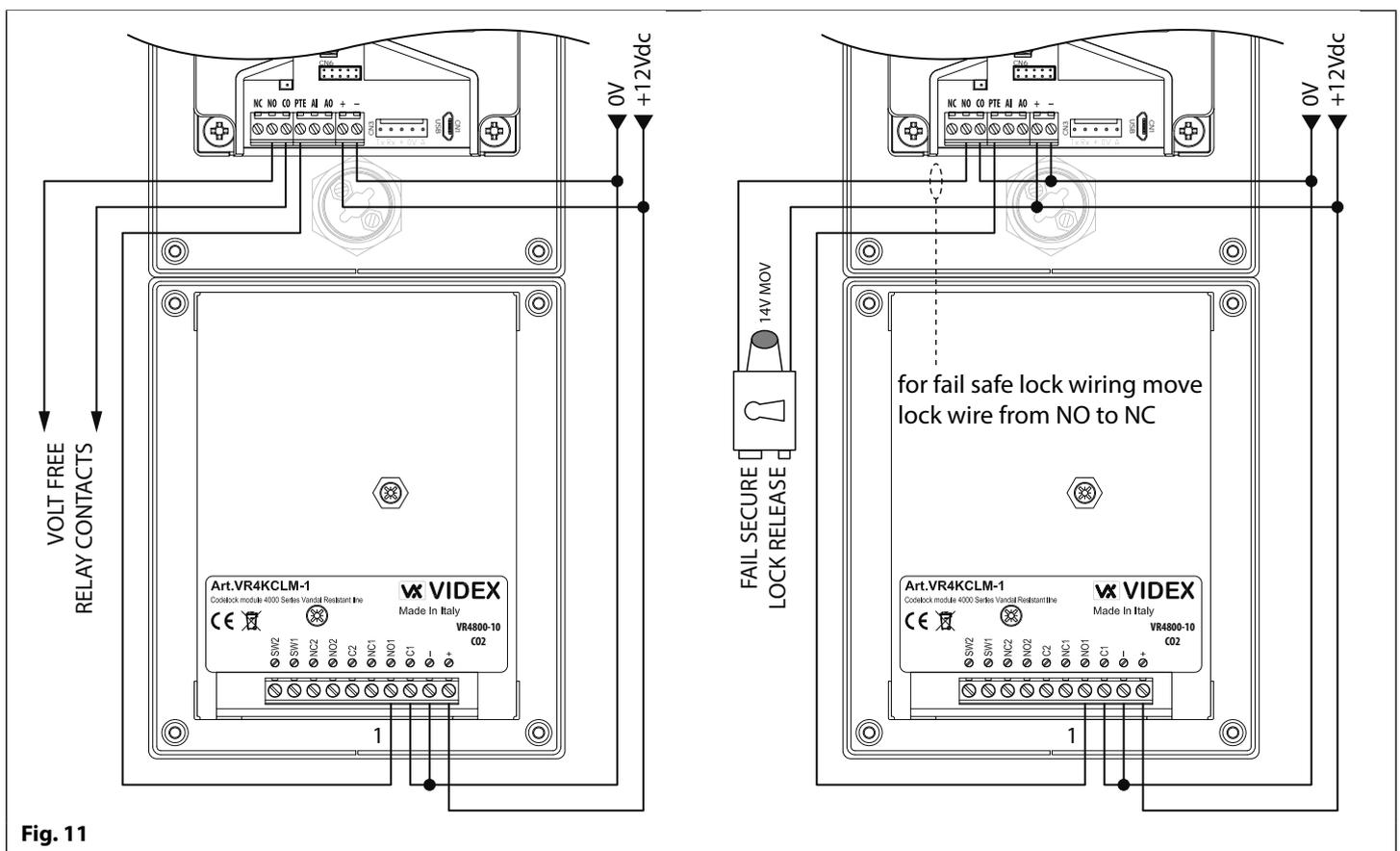
[1] - Remember to set the VR4KCLM-1 relay time to a shorter time than that of the GSM relay time (**RLT**).

ART. VR4KCLM-1 PROGRAMMING GUIDE

Initial Programming

All programming is carried out using the keypad. The programming menu is protected by an engineer's code. The factory default engineer's code is '111111' (6x1). This code can be changed to any 4 to 6 digit engineer's code during the programming, but must be different to the access codes used to gain entry. Follow the flow chart below to setup the access codes:

```
Enter the default engineer's
code '111111'.
Then press ENTER.
```

The red LED will illuminate to acknowledge the Art.VR4KCLM-1 is in programming mode. If the red LED does not illuminate check the engineer's code is correct. If the engineer's code has been changed from the factory default and you do not know what it is then follow the factory default procedure on page 18.

Melody

```
Enter a new engineer's code
or enter the same engineer's
code again.
Then press ENTER.
```

This new engineer's code can be from 4 – 8 digits long and will not activate the relays. It can only be used to enter programming mode. Please note that this new engineer's code will be needed to re-program the Art.VR4KCLM-1 relay codes in the future.

Melody

```
Enter the access code
for relay 1.
Then press ENTER.
```

This access code will be used to open the door/gate for relay 1. The code can be from 4 – 8 digits long and must be different from the engineer's code.

Melody

```
Enter a two digit relay 1 time
from 00 - 99 seconds.
Then press ENTER.
```

This is the time that relay 1 will activate for. It is a two digit number, for example if relay 1 needs to activate for 5 seconds then enter '05' followed by ENTER. '00' will latch the relay when the access code is entered and require the access code followed by CLEAR to unlatch.

NO — ◇ More codes? ◇   *Melody*

YES

Press ENTER twice to exit programming

```
Enter the access code
for relay 2.
Then press ENTER.
```

This access code will be used to open the door/gate for relay 2. The code can be from 4 – 8 digits long and must be different from the engineer's code and different from the previous access codes.

Melody

```
Enter a two digit relay 2
time from 00 - 99 seconds.
Then press ENTER.
```

This is the time that relay 2 will activate for. It is a two digit number, for example if relay 2 needs to activate for 5 seconds then enter '05' followed by ENTER. '00' will latch the relay when the access code is entered and require the access code followed by CLEAR to unlatch.

Melody

```
SYSTEM READY
TO USE
```

The Art.VR4KCLM-1 codelock will play a melody and the red LED will switch OFF to confirm all the settings are saved and exit from programming mode.

Re-programming the Codelock

If the VR4KCLM-1 codelock has been programmed with an existing access code and it needs to be changed then follow the flow chart below to re-program a new acces code:

```
┌─────────────────────┐
│  Enter the existing │
│  engineer's code.   │
│  Then press ENTER.  │
└─────────────────────┘
```
Melody

The red LED will illuminate to indicate that the codelock is in programming mode ².

```
┌─────────────────────┐
│  Re-enter the existing │
│  engineer's code again. │
│  Then press ENTER.  │
└─────────────────────┘
```
Melody

Alternatively enter a new eningeer's code (4 - 6 digits).

```
┌─────────────────────┐
│  Enter a new access │
│  code for the relay.│
│  Then press ENTER.  │
└─────────────────────┘
```
Melody

Relay access code (4 - 6 digits) that operates the door or gate ³

```
┌─────────────────────┐
│ Enter a two digit relay time │
│  from 00 - 99 seconds. │
│  Then press ENTER.  │
└─────────────────────┘
```
Melody

2 digit relay time (01 - 99 seconds or 00 for latching).

```
        ◇ More codes? ◇
```
Melody

NO →
```
┌─────────────────────┐
│  Press ENTER twice to │
│  exit programming   │
└─────────────────────┘
```
Melody

The red LED will switch OFF to indicate that the codelock has exited programming mode.

YES

```
┌─────────────────────┐
│  Repeat steps for a new │
│  access code and time │
│  for relay 2        │
└─────────────────────┘
```

Engineer's Code	
Relay 1 Code	
Relay 1 Time	
Relay 2 Code	
Relay 2 Time	

Programming Notes

² - If the red LED does not illuminate then the engineer's code has been previously changed or is incorrect. To reset this code follow the factory reset procedure below.

³ - On the first loop of the flow chart above the access code is for relay 1 on the second loop the access code is for relay 2.

RESETTING THE ENGINEER'S CODE BACK TO FACTORY DEFAULT '111111' (6x1)

1. Remove/disconnect the power from the VR4KCLM-1 codelock.

2. Press and hold down the ENTER button while the power is switched back onto the codelock.

3. Once power is restored to the codelock release the ENTER button.

4. The engineer's code has been reset back to the factory default of '111111' (6x1).

Additional Modules

As previously mentioned on page 14 additional modules can be connected to the vandal resistant GSM intercom:

- a display interface module the VR4KDM;

- an off-board Wiegand proximity reader the VR4KPPM (XPROX).

ART. VR4KDM (DISPLAY INTERFACE MODULE)

The VR4KDM display interface module (as shown in **Fig.12**) can be connected to the GSM module using the 'plug-in' UIM-138 connection harness. The module aids users with disabilities to make the process of calling a number or apartment more user friendly helping comply with the Equality Act 2010.

The VR4KDM module has a 2 line 16 character blue back-lit LCD which is protected behind a 6mm lexan window and displays the call progress information whilst also producing spoken call progress messages through the speaker of the GSM module.

Programming of the display module can be carried out using the current VX2X00 programming software (version 7.0.0.17 or later) allowing user names, apartment numbers and additional displayed messages to be programmed. The VR4KDM module connects to the GSM intercom using the 'plug-in' connector described above and then connects to the PC/laptop using a standard USB cable connection (refer to the connection diagram, **Fig.15**, on page 20).

Further programming information can be found in the following technical manual:

- **UIM-138 Display Module Manual - Technical Manual Edition 1.0.**

speech annunciation volume adjustment

display contrast adjustment

103mm

120mm

Art. VR4KDM
UIM-138
User information module

VIDEX® CE
Made in Italy
UIM138 1.3 - UIM138 SP10

CON VOL
Up Down High Low   USB   0V A0 I1 I2 I3 I4 I5

0V A0 I1 I2 I3 I4 I5

2 line 16 character blue back-lit display

UIM-138 harness connection   USB connection   Terminal connections
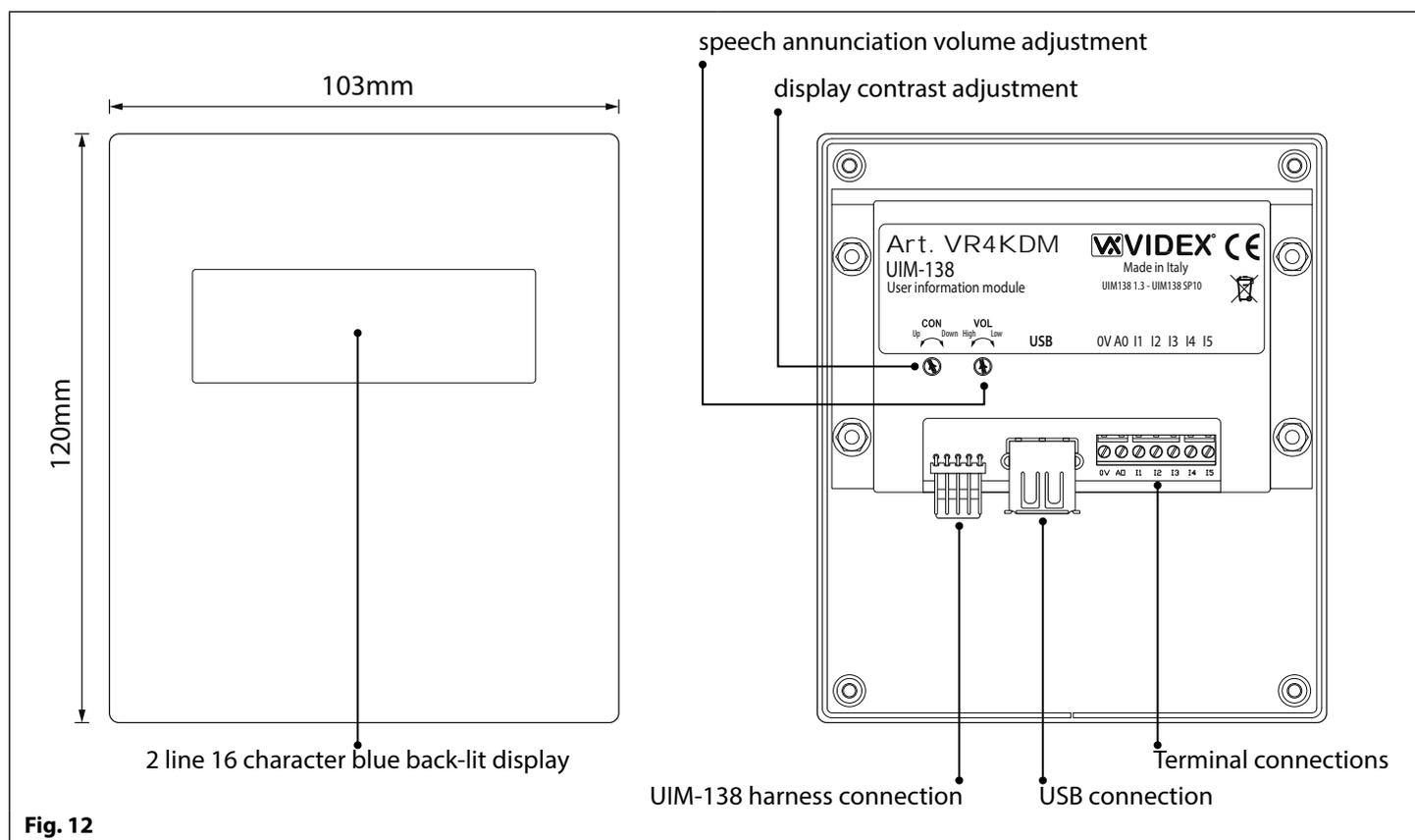
Fig. 12

CONTRAST ADJUSTMENT AND SPEECH ANNUNCIATION VOLUME CONTROLS

There are 2 adjustment controls on the back of the display module, see **Fig.12** above. The 'CON' adjustment POT controls the contrast and 'back-lit' intensity of the display; turning the POT anti-clockwise increases the contrast and intensity of the display; turning the POT clockwise decreases the contrast and intensity of the display, see **Fig.13**. The 'VOL' adjustment POT controls the speech annunciation volume through the GSM module's speaker; turning the POT anti-clockwise turns the speech volume high; turning the POT clockwise turns the speech volume low, see **Fig.14**.

CON

UP   DOWN

Fig. 13

VOL

HIGH   LOW

Fig. 14

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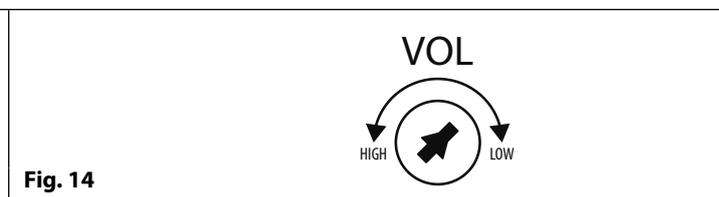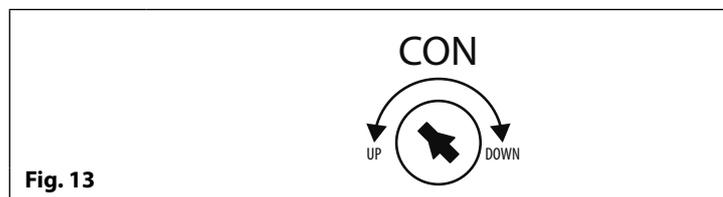
TERMINAL CONNECTIONS, HARNESS CONNECTIONS AND USB INPUT

Terminal	Description
0V	Switched 0V input.
AO	Programmable auxiliary output (switched 0V).
I1	
I2	5 programmable auxiliary inputs. To program these inputs please refer to the technical manual:
I3	
I4	**UIM-138 Display Module Manual - Technical Manual Edition 1.0**
I5	
UIM-138 Harness Connection	5 pin UIM-138 harness input to CN3 connection on the GSM module. (see connection diagram below).
USB Input	USB cable input to connect laptop/PC for programming the VR4KDM module. (see connection diagram below).

TECHNICAL SPECIFICATION

Working Voltage   : 12 - 14Vdc +/- 10%
Standby Current   : approx. 29mA
Max. Current   : approx. 34mA (max.)
Harness Connection   : 5 pin connector
USB Port   : standard USB cable input
Dimensions   : 103mm (W) x 120mm (L) x 32mm (D)
Working Temp.   : -10 +50ºC

CONNECTING THE VR4KDM TO THE GSM MODULE

Fig.15 below shows how to connect the display module to the vandal resistant GSM module using the UIM-138 connection harness and then connecting the display module to a laptop/PC via the USB cable input.

Fig. 15
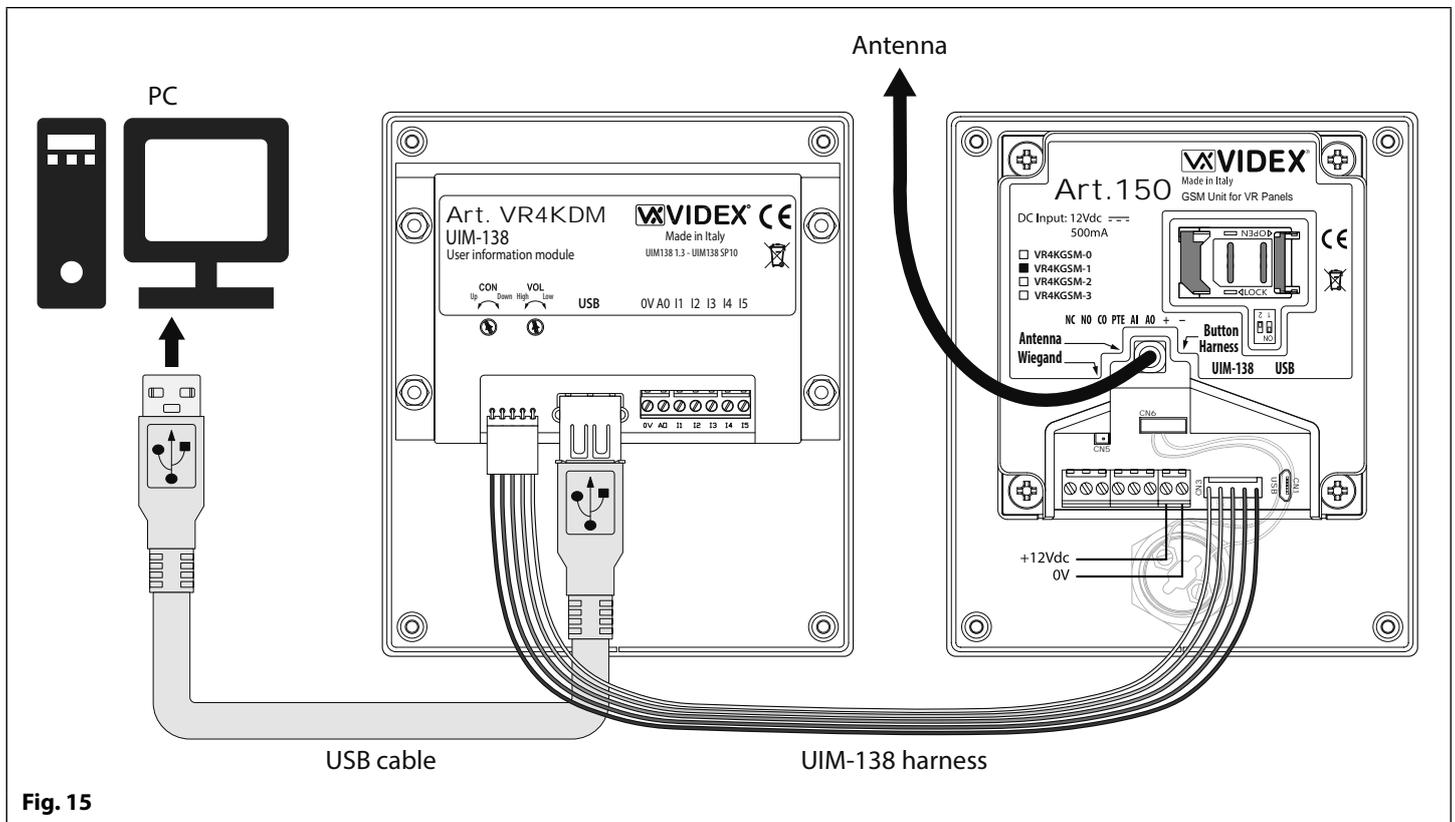
ART. VR4KPPM (WIEGAND PROXIMITY READER)

The VR4KPPM Wiegand proximity reader (as shown in **Fig.16**) can be connected to the GSM module using the 'plug-in' proximity connection harness. Further information on programming proximity fobs/cards can be found on pages 46 and 47 of this manual.

Data/standby LED (amber)   Access granted LED (green)   Access denied LED (red)   Terminal connections
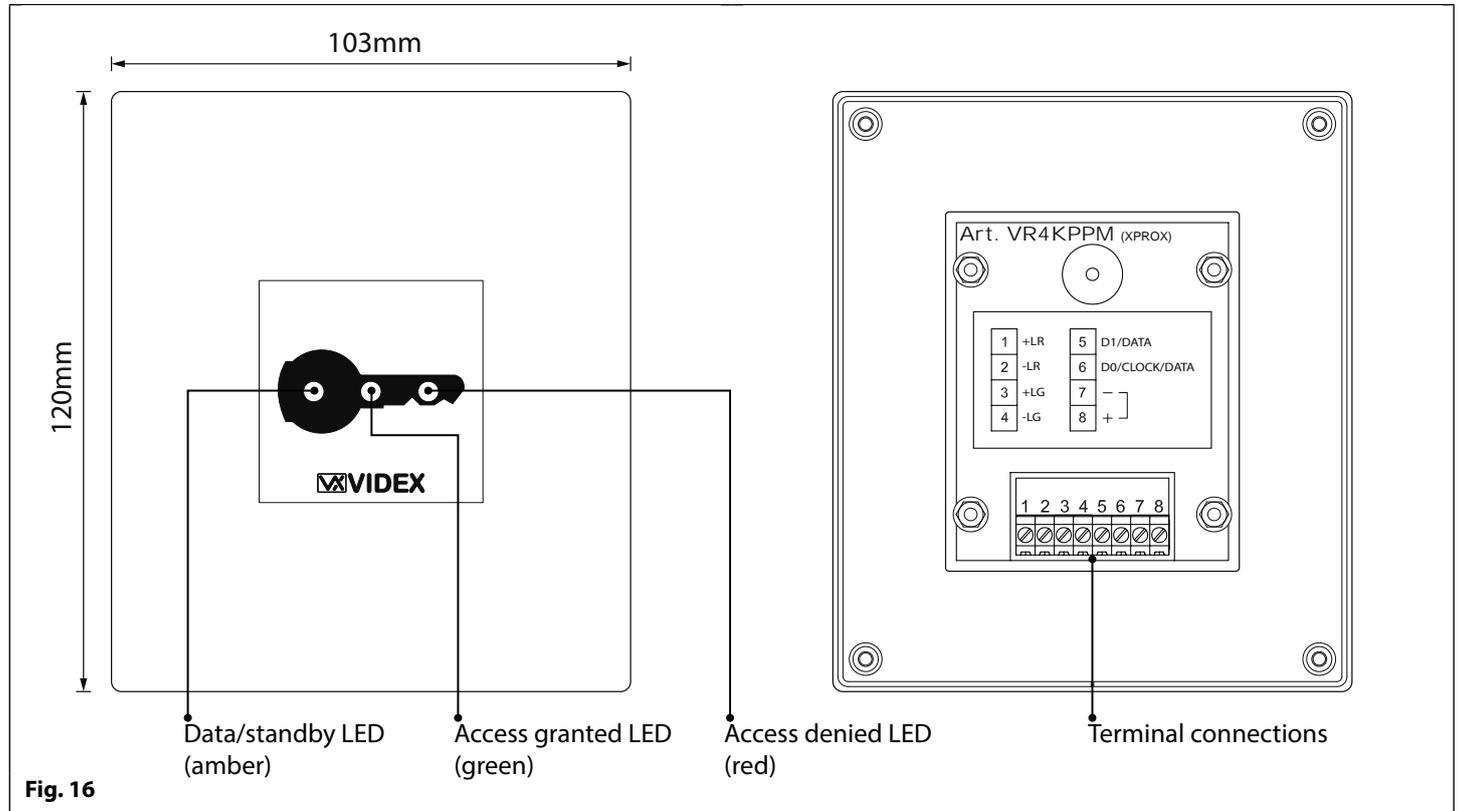
Fig. 16

TERMINAL CONNECTIONS

Connection		Description	
1	+LR	Access denied (red) LED +positive connection.	
2	-LR	Access denied (red) LED -negative switch connection.	
3	+LG	Access granted (green) LED +positive connection.	
4	-LG	Access granted (green) LED -negative switch connection.	
5	D1/DATA	Data connection.	D0 and D1 Wiegand clock and data terminals.
6	D0/CLOCK/DATA	Clock data connection.	
7	-	0V ground power input.	
8	+	12Vdc power input.	

TECHNICAL SPECIFICATION

Working Voltage   : 12Vdc +/- 10%
Current (standby)   : 20mA
Current (during operation) : 70mA (max.)
Wiegand Connection   : D0 and D1 clock and data
Dimensions   : 103mm (W) x 120mm (L) x 30mm (D)
Working Temp.   : -10 +50ºC

CONNECTING THE VR4KPPM TO THE GSM INTERCOM

Follow the connections as shown in **Fig.17** when connecting the VR4KPPM Wiegand proximity module to the GSM intercom when using the 'plug-in' proximity connection harness. The table below shows the harness signal colours.

Connection Signal		Harness Wire Colour
1	+LR	red wire linked across to terminals 3 and 8 (+positive).
2	-LR	orange wire (red LED).
3	+LG	red wire linked across to terminals 1 and 8 (+positive).
4	-LG	green wire (green LED).
5	D1/DATA	yellow wire (data)
6	D0/CLOCK/DATA	white wire (data).
7	-	black wire (0V).
8	+	red wire linked across to terminals 3 and 1 (+positive).
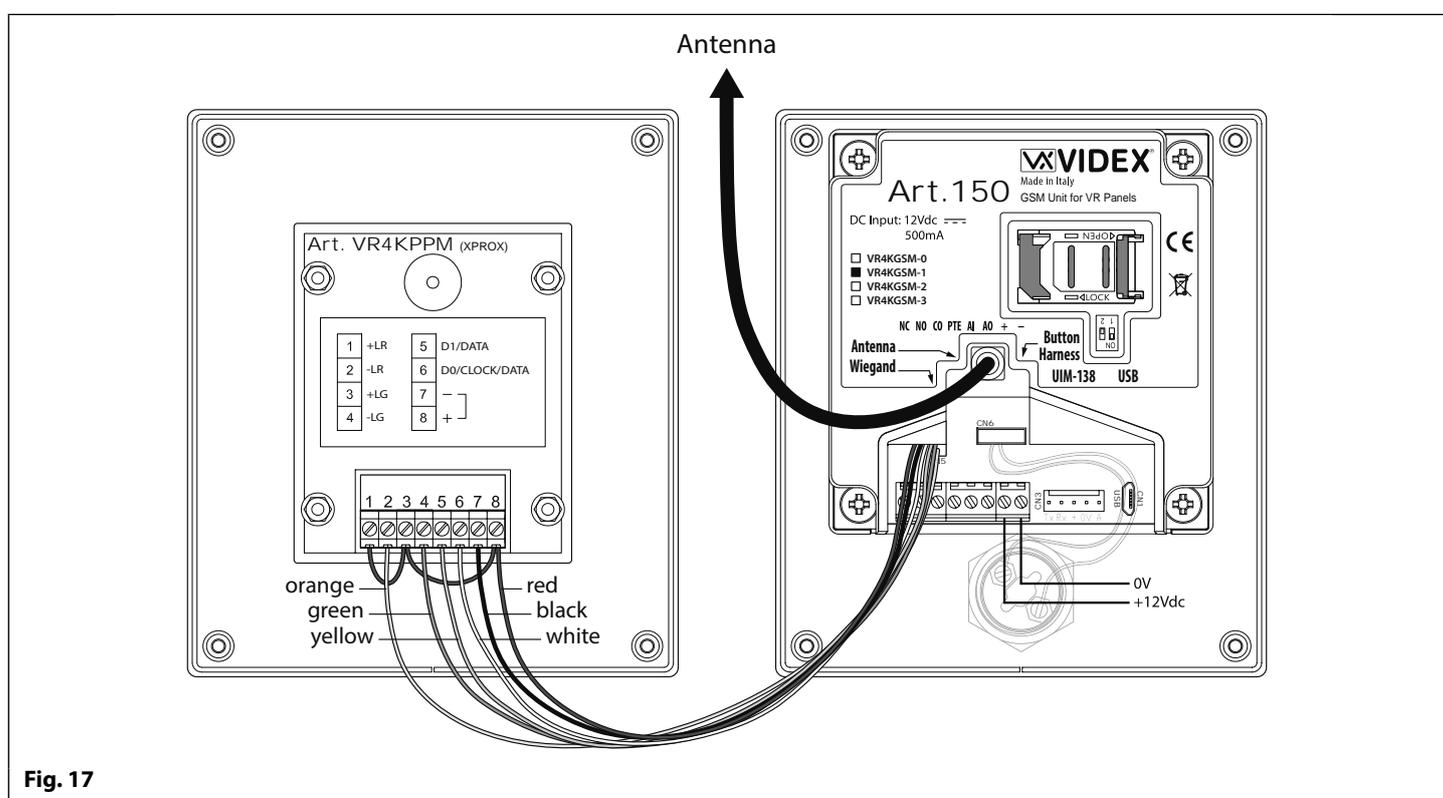
Fig. 17

Wiring Diagrams

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GSMVRK CONNECTIONS

Fig.18 shows the wiring connections for a **GSMVRK-1** / **GSMVRK-1S** audio kit.

Fig. 18
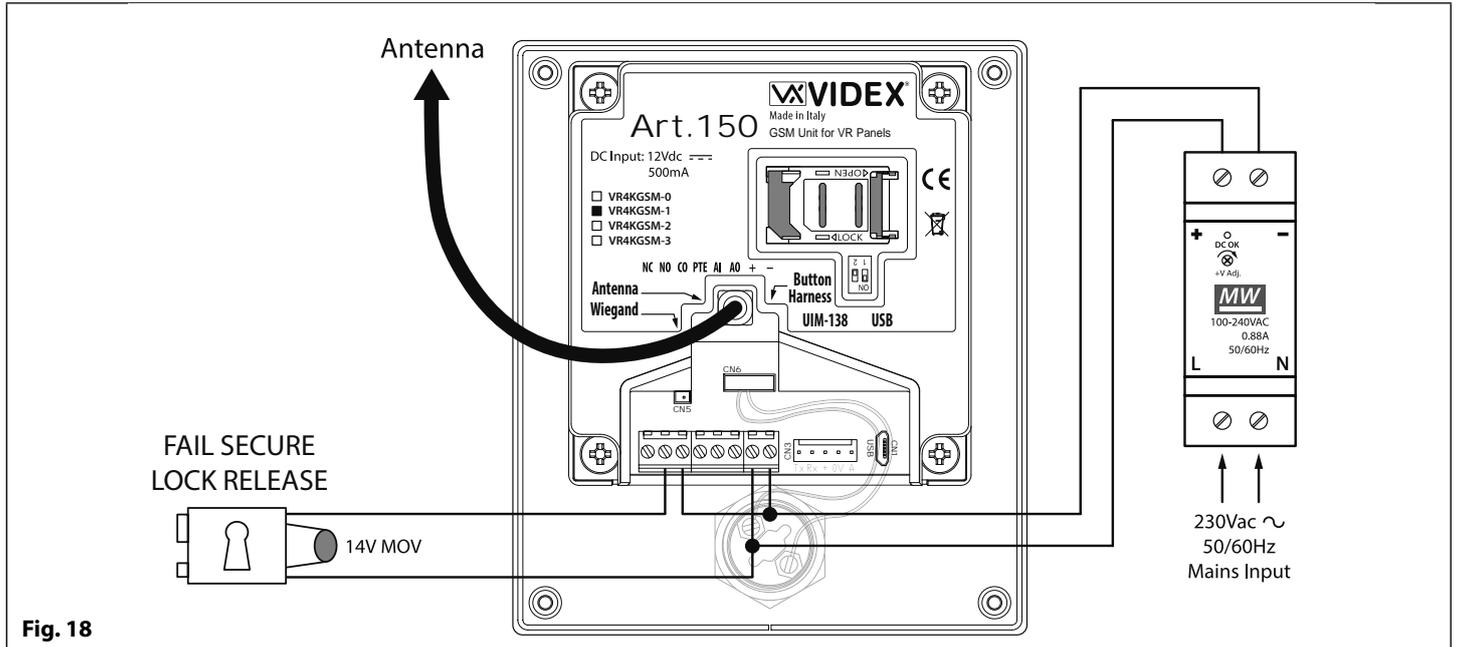
GSMVRKC CONNECTIONS

Fig.19 shows connections for a **GSMVRKC-1** / **GSMVRKC-1S** audio kit (also see **Fig.11** on page 16 for volt free connections and fail secure lock wiring).

Fig. 19
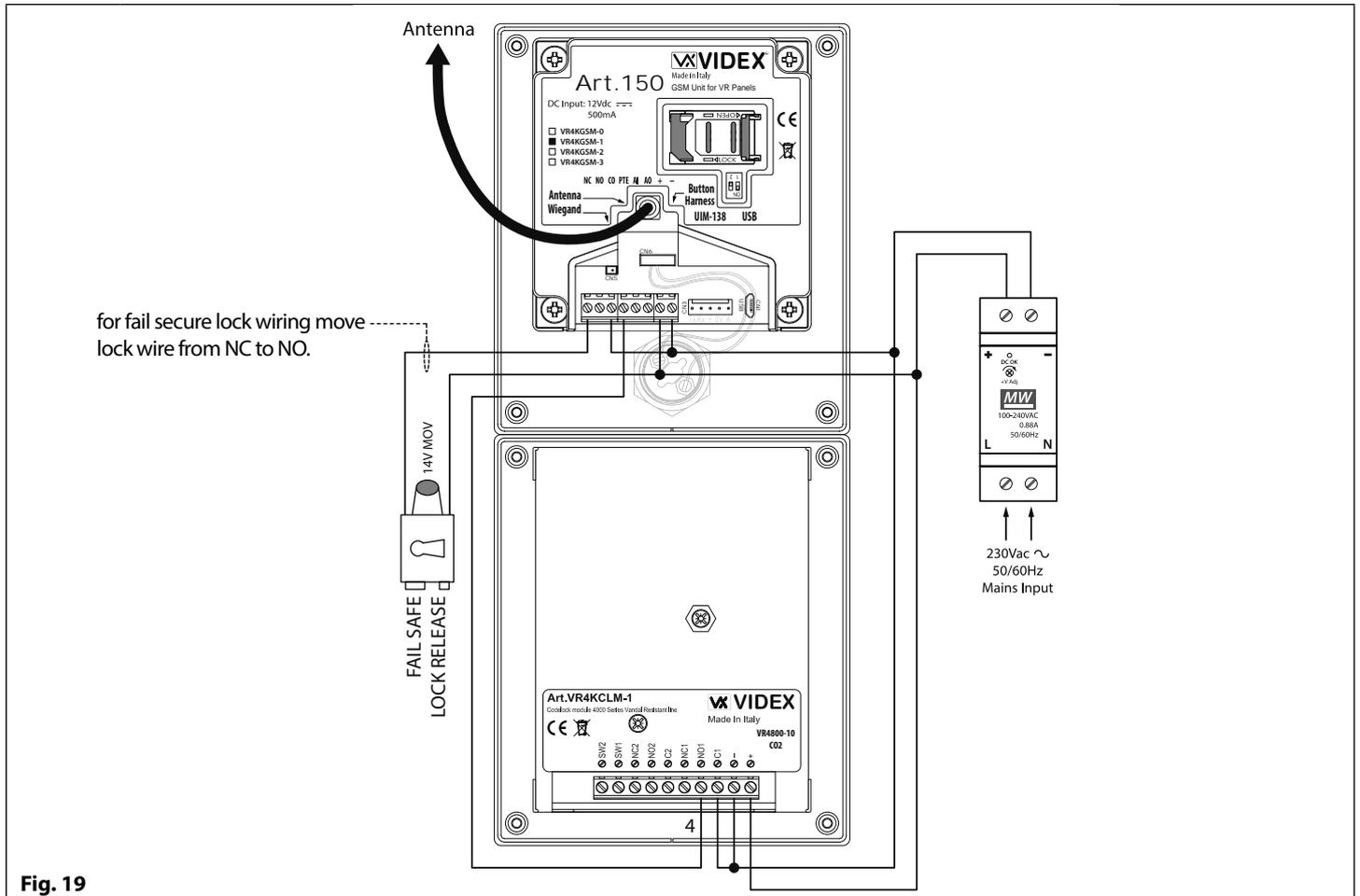
4 - Remember to set the VR4KCLM-1 relay time to a shorter time than that of the GSM relay time (**RLT**).

CONNECTING TO A GATE CONTROLLER

If the GSM intercom is going to be connected to an electric gate then the wires from the gate controls can be connected directly into the CO and NO relay terminals on the GSM module. Follow the connections shown in **Fig.20**.

Fig. 20
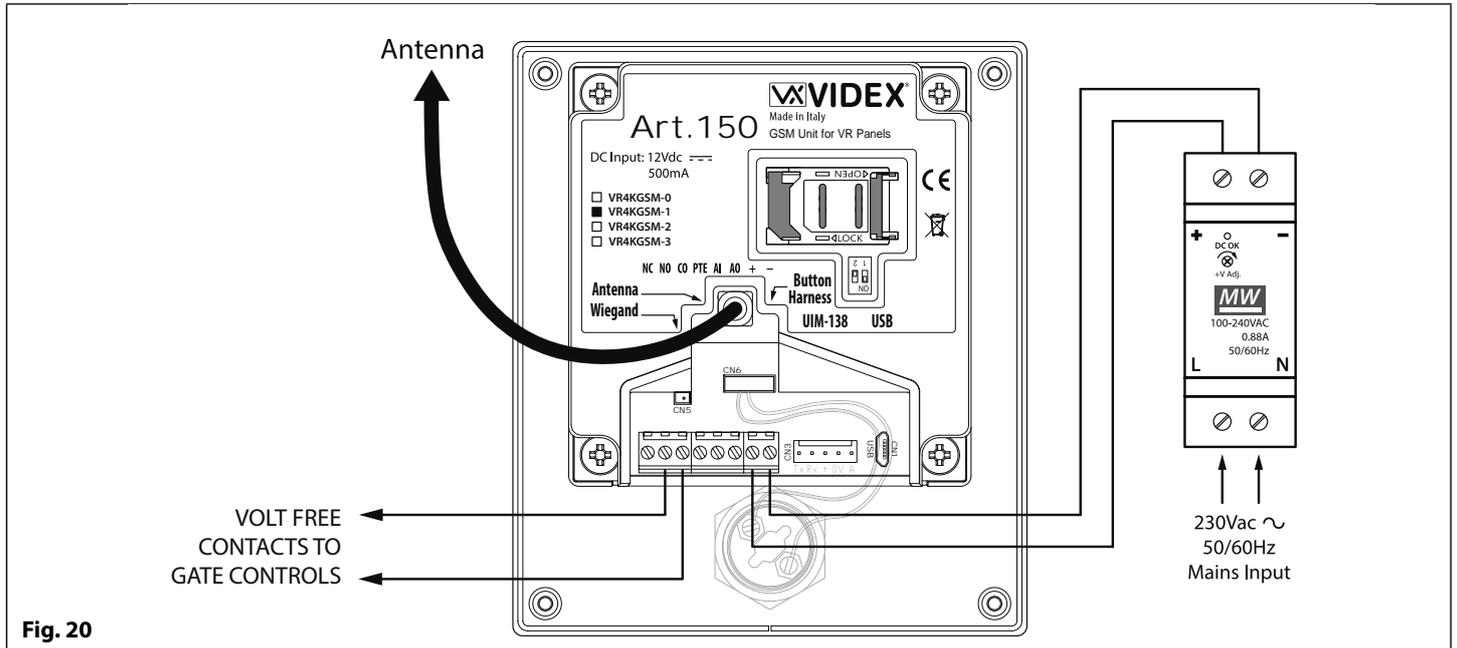
CONNECTING A PUSH TO EXIT BUTTON

The push to exit button must be configured as a push-to-make switch and connected across terminals PTE & - (0V) on the GSM module. When the exit button is pressed the GSM relay will trigger for the programmed time, **RLT** (see **Fig.21**).

Fig. 21
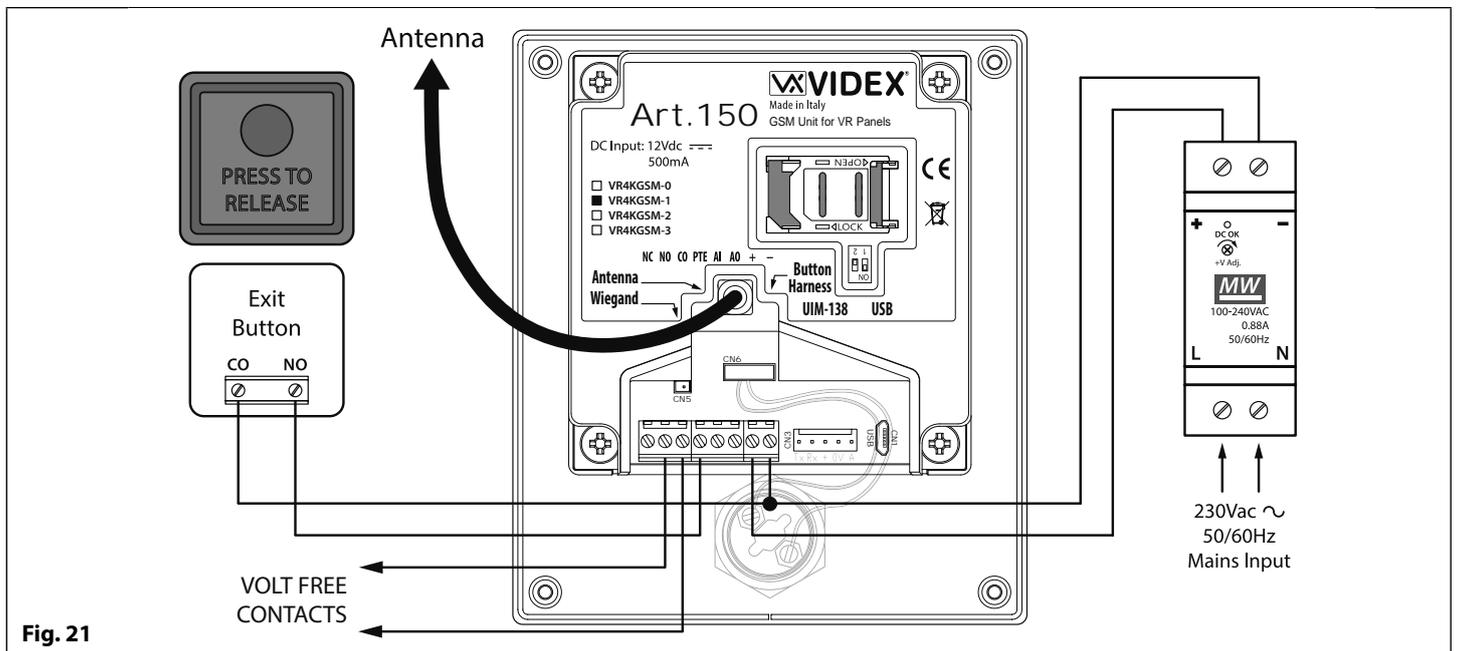
CONNECTING A TRADE BUTTON USING AN ART. 701T (28G) TIMECLOCK

If required a digital timeclock, the Art.701T, can be used for connecting a trade button. First isolate a button either on the VR4KGSM module or VR4K button module (see button module variations in **Fig.1** and **Fig.2** on page 6). Connect the isolated button to the Art.701T timeclock as shown in **Fig.22**. The timeclock should be set to timeclock mode (see **Fig.22**). For programming and set up of the timeclock please refer to the Art.701T (28G) Installation Instructions: **66250340-701T-EN-V1.1**.

When the programmed timeband is reached on the timeclock pressing the trade button will trigger the GSM module's push to exit (**PTE**) input and the GSM relay will trigger for the programmed time, **RLT**.

Fig. 22
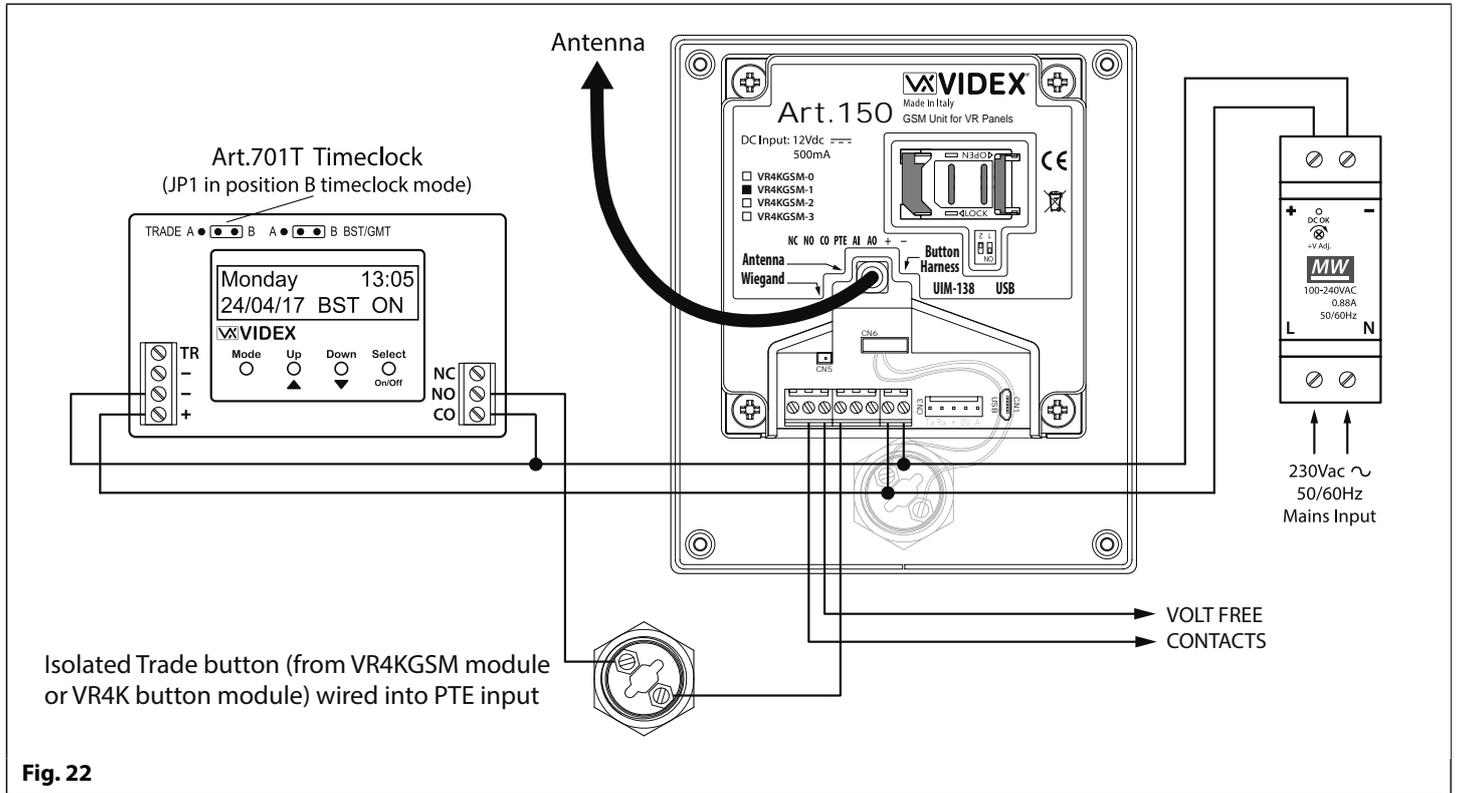
Auxiliary Input & Output

The GSM's auxiliary output can be programmed to 3 different modes (00 - 02), please refer to programming notes on how to set up the auxiliary output mode (**A1M**) on page 41.

AUXILIARY OUTPUT (AO) WHEN SET TO MODE 00 (ON DURING A CALL)

Fig.23 below shows the connection for auxiliary output **AO** when the **A1M** mode is set to **00**. The auxiliary output **AO** will activate once a call to an apartment has been made and will stay activated for the duration of the call.

When the auxiliary output mode (**A1M**) is set to mode **00**. The auxiliary output **AO** will activate from when a call is made to an apartment and stay activated for the duration of the call.

When the call is finished the auxiliary output AO will deactivate.

Fig. 23
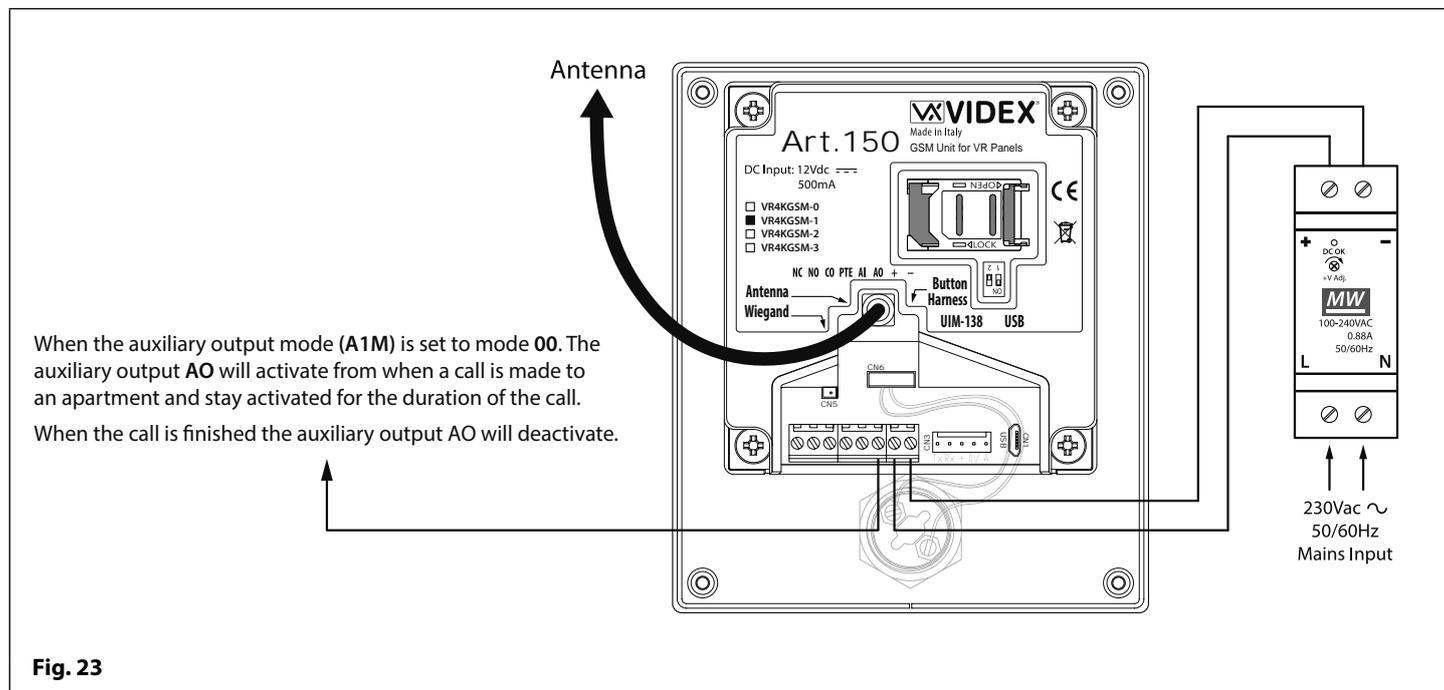
AUXILIARY INPUT (AI) AND AUXILIARY OUTPUT (AO) WHEN SET TO MODE 01 (ON WHEN TRIGGERED)

Fig.24 below shows the connection for auxiliary output **AO** when the **A1M** mode is set to **01**. The auxiliary output **AO** can be activated remotely by the user sending the text message **1111A1O** to the GSM intercom or by pressing **6** on the telephone during a call and will stay activated for the programmed auxiliary output time **A1T**. The auxiliary output can also be triggered by a normally open switch (switched 0V) connected into the auxiliary input **AI**.

The auxiliary output **AO** will activate for the programmed auxiliary output time (**A1T**) when the auxiliary input **AI** is triggered from a normally open switch (switched 0V) and the auxiliary output mode (**A1M**) is set to mode **01**.

The auxiliary output **AO** can also be triggered remotely by sending the text message **1111A1O** to the GSM module or by pressing **6** on the telephone during a call.

Fig. 24

Auxiliary Input & Output

AUXILIARY OUTPUT (AO) WHEN SET TO MODE 02 (CALL ACTIVATED)

Fig.25 below shows the connection for auxiliary output **AO** when the **A1M** mode is set to **02**. The auxiliary output **AO** will activate once a call to an apartment has been made and will stay activated for the programmed auxiliary output time **A1T**.

When the auxiliary output mode (**A1M**) is set to mode **02**. The auxiliary output **AO** will activate from when a call is made to an apartment and stay activated for the auxiliary output time (**A1T**).

Antenna

Fig. 25
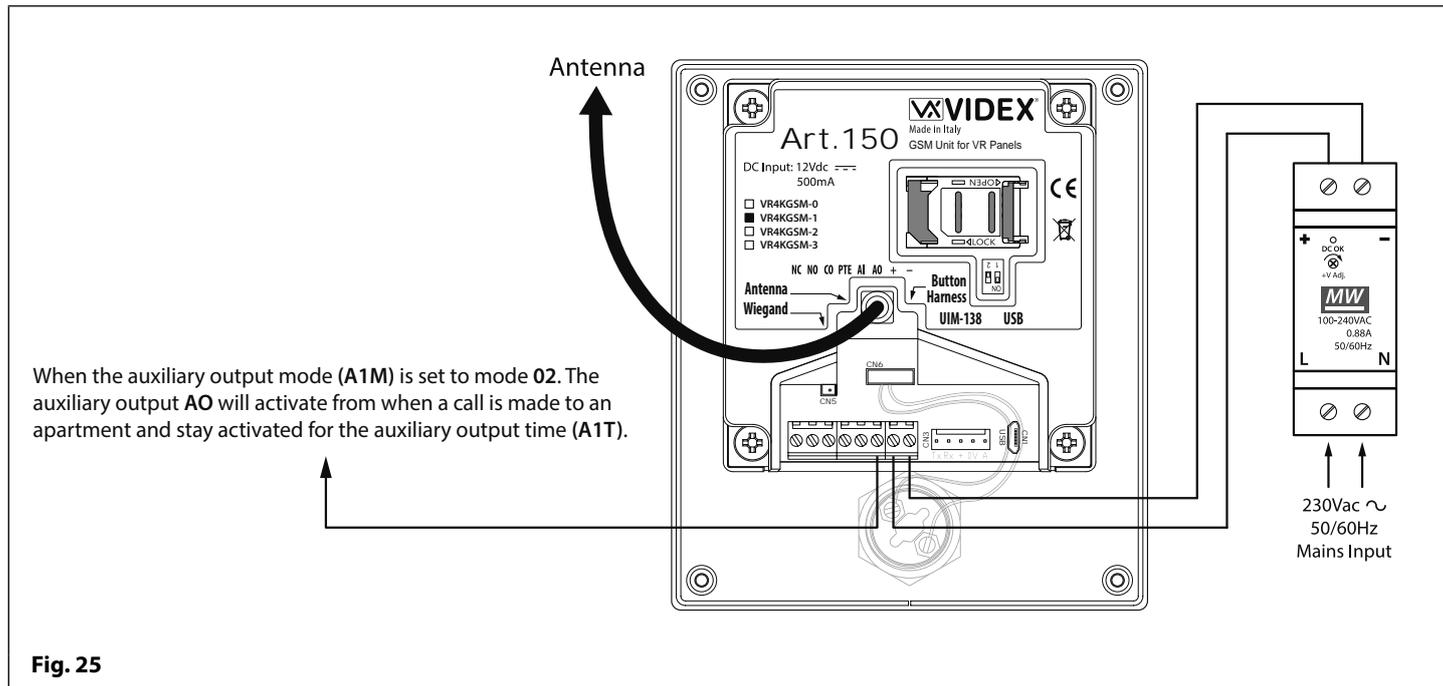
CONNECTING A SECONDARY DEVICE TO THE AUXILIARY OUTPUT (AO)

Since the auxiliary output **AO** is a transistor switched output (switched low output) it can be connected to a relay (e.g. an Art.506N). This is particularly useful if a secondary device requires triggering. **Fig.26** shows how to connect an Art.506N relay.

Antenna

VOLT FREE CONTACTS

Fig. 26
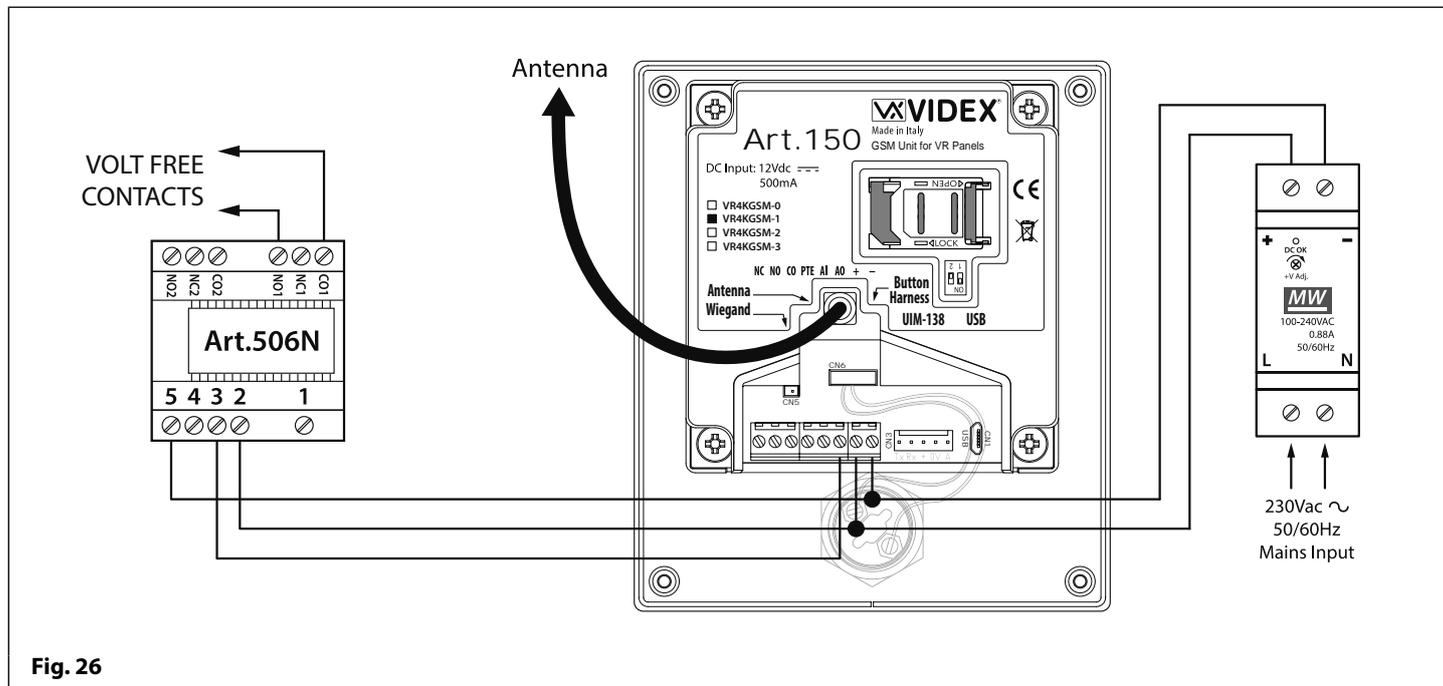
USB Connection

CONNECTIONS TO A PC

The vandal resistant GSM intercom also includes a micro-USB connection allowing the module to be connected to a laptop/PC for ease of programming and for downloading the event log. Programming is carried out using the GSMSK PC software. All programming features described in this manual are also accessible using the software. Further information on using the GSMSK PC software can be found in the technical manual **GSMSK_66251720_EN_V1-3** (or later version).

USB CONNECTION

The GSM module can be connected using a standard micro-USB to USB cable as shown in **Fig.27**.
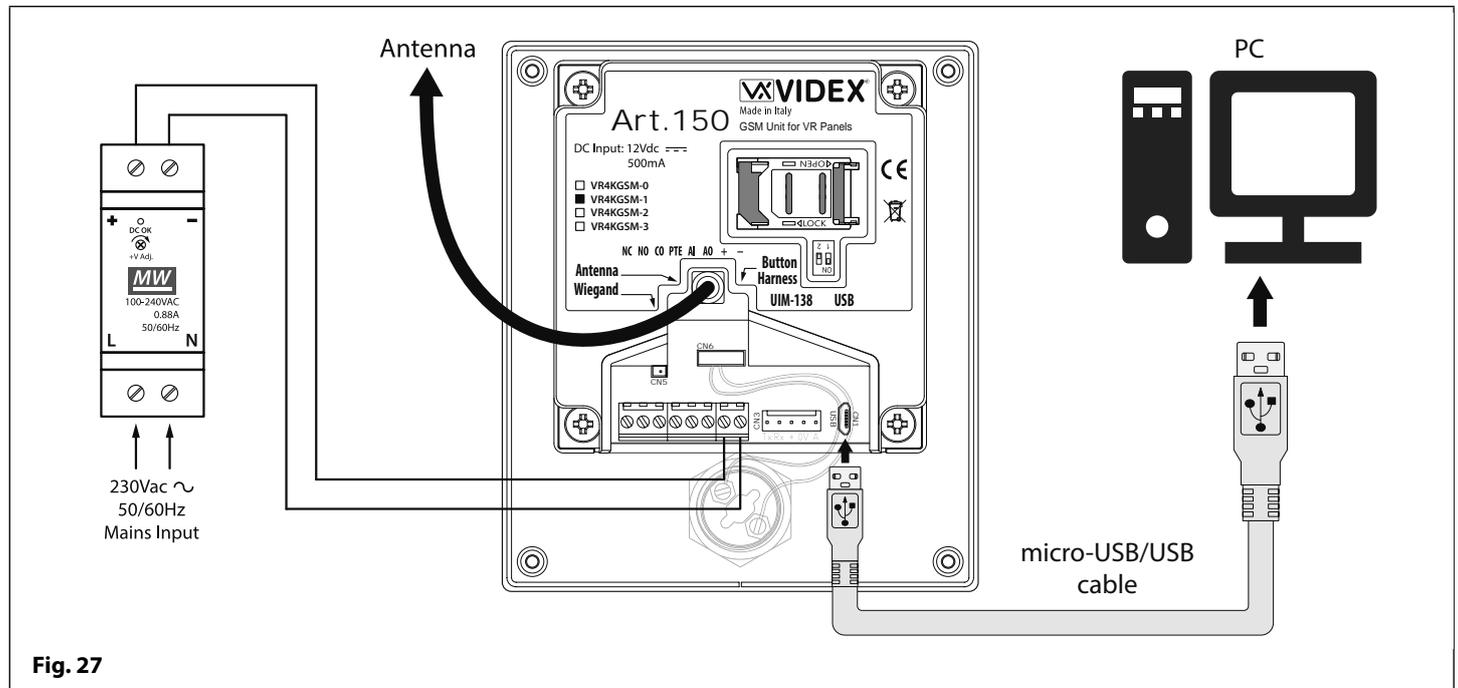
Fig. 27

IMPORTANT NOTE: The USB is <u>not</u> intended for a permanent connection to a PC and should only be used for programming and setup of the GSMVRK module.

CABLE SIZE GUIDE

Refer to the table below for the connections for the power supply output to the VR4KGSM intercom and the lock release connections.

Distance	20m	50m	100m
Cross Sectional Area (CSA)	0.5mm^2	1.0mm^2	1.5mm^2

Ideally the power supply should be located as close to the intercom panel as possible for best performance. The maximum acceptable resistance for the above cables = 3Ω or less for best possible performance.

IMPORTANT NOTE: Only bare copper (BC) cable should be used (solid or stranded is acceptable). Please be aware that when selecting a cable the following should NOT be used: Copper Coated Steel (CCS) and Copper Clad Aluminium (CCA). While these types of cable may offer a low cost solution they will have a higher resistance than pure copper cable and can affect the overall performance of the system therefore Videx DO NOT recommend these types of cable.

GENERAL INSTALLATION NOTES

- Check that all components are free from damage before installing (do not proceed with installation in the event of damage).
- Keep all packaging away from children.
- Do not obstruct the ventilation openings or slots on any of the devices.
- All connections to mains voltages must be made to the current national standards (I.E.E. wiring regulations or the appropriate standards of your country).
- Install an appropriate fused spur or isolation switch to isolate the mains.
- Isolate the mains before carrying out any maintenance work on the system.
- Avoid water ingress into the rear of the module, always seal the module frame after installation using a suitable silicon based sealant.
- All intercom and access control cables must be routed separately from the mains.

LOCK RELEASE WIRING AND BACK EMF PROTECTION

When fitting an electric lock release back EMF protection will be required. If fitting an AC lock release then a 100nF ceramic disc capacitor must be fitted across the terminals of the lock, shown in **Fig.28**. If fitting a DC lock release (fail secure or fail safe) then a 1N4002 diode must be fitted across the terminals on the lock, shown in **Fig.29**.

100nF CAP

a MOV can be fitted to either an AC or DC lock across the lock terminals and is not polarity conscious

Fig. 28

1N4002 DIODE

always connects to the +positive of the lock

always connects to the -negative of the lock

Fig. 29
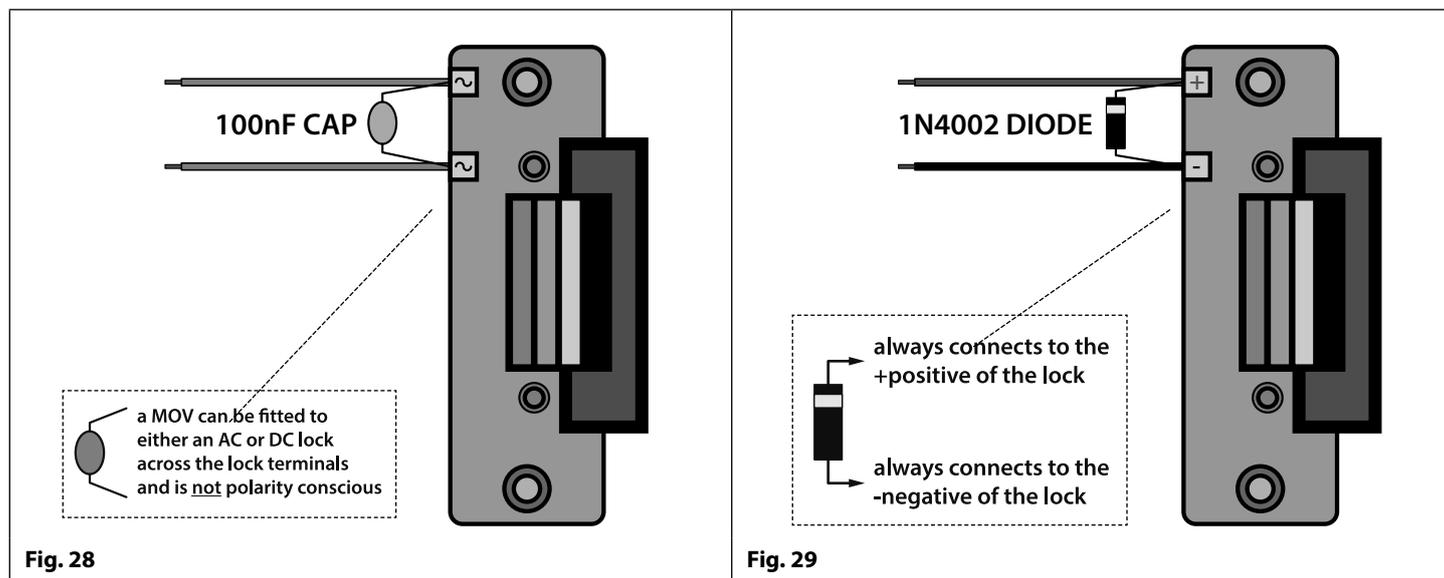
If a 100nF ceramic disc capacitor or a 1N4002 diode are not available then a 14 - 20V MOV (metal oxide varistor) can be fitted across the lock terminals instead (refer to **Fig.28** above) and can be fitted on both an AC and DC lock. Connection examples can also be seen on the wiring diagrams on pages 16 and 23.

CONNECTION TO MAINS, SAFETY AND GUIDANCE NOTES

⚠ **IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE COMMENCING WITH THE INSTALLATION.**

Videx recommends that any cabling and Videx product be installed by a competent and qualified electrician, security installation speclialist or communications engineer.

- **DO NOT** install any Videx product in areas where the following may be present or occur:

- Excessive oil or a grease laden atmosphere.

- Corrosive or flammable gases, liquids or vapours.

- Possible obstructions which would prevent or hinder the access and/or removal of the Videx product.

MAINS CONNECTION

The system **MUST** be installed in accordance with the current I.E.E regulations (in particular **I.E.E. Wiring regulations BS7671**), or the appropriate standards of your country, in particular Videx recommends:

- Connecting the system to the mains through an all-pole circuit breaker (refer to **Fig.30**) which shall have contact separation of at least 3mm in each pole and shall disconnect all poles simultaneously.

- That the all-pole circuit breaker shall be placed in such a way to allow for easy access and the switch shall remain readily operable.

- Ensuring that the mains supply (Voltage, Frequency and Phase) complies with the product rating label.

- Isolating the mains before carrying out any maintenance work on the system.

Mains

1 PHASE SUPPLY
(220 - 240Vac, 50/60Hz)

N

~

L

FUSE

SWITCHED FUSE SPUR
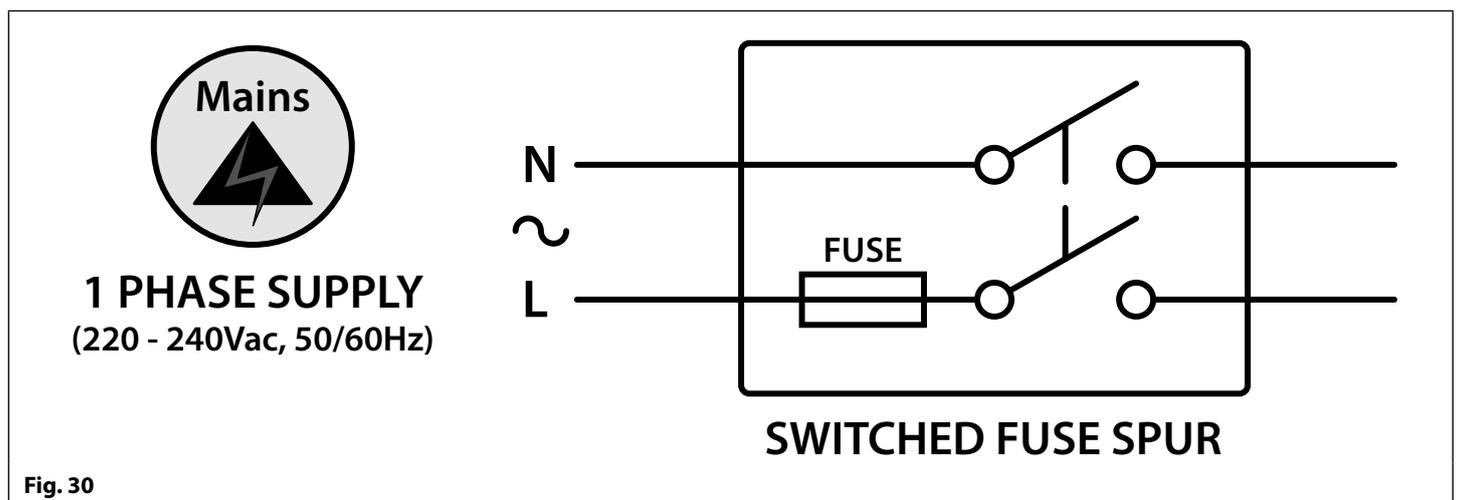
Fig. 30

POWER SUPPLY INSTALLATION

Follow the steps below when fitting the DL-15-12, 12Vdc 1.25A power supply.

- First remove the terminal side covers by unscrewing the retaining screws (if applicable).

- Fix the power supply to a DIN rail (following **Fig.31**, **Fig.32** and **Fig.33**).

- Switch OFF the mains using the circuit breaker (mentioned previously) and then make the connections as shown on the installation diagrams.

- Check the connections and secure the wires into the terminals ensuring that the low voltage (signal) cables are routed separately from the high voltage (mains) cables.

- Replace the terminal covers and fix them back into place using the relevant screws (if applicable).

- When all connections are made restore the mains supply.
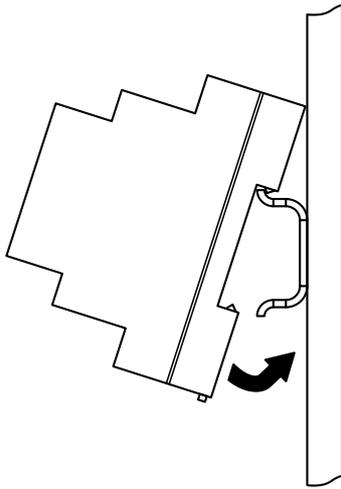
Fig. 31
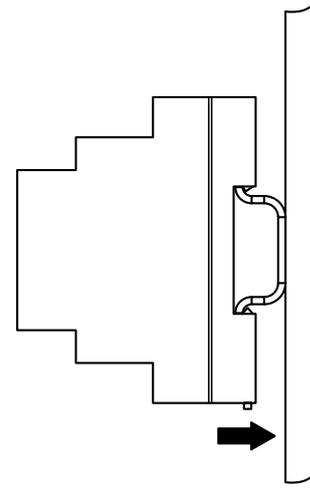
Fig. 32
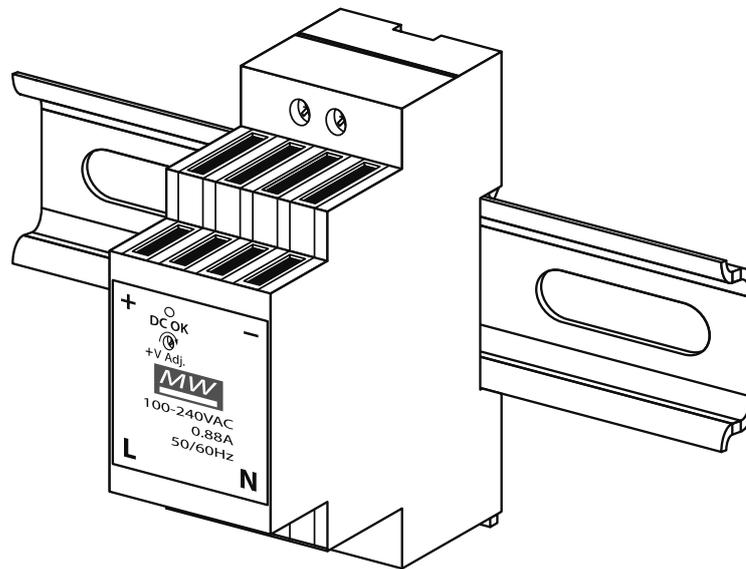
Fig. 33

PANEL CARE

The digital GSM panel facia is brushed stainless steel. It is important that the facia is cleaned on regular occasions to prevent dirt build up and tarnishing of the metal. A general household metal polish can be used but care should be taken to follow the grain of the metal when polishing and also avoid any polish build up around the panel buttons which may prevent the buttons from operating correctly.

Fitting the SIM & Connecting Power

FITTING THE SIM CARD AND CONNECTING THE POWER TO THE GSM INTERCOM

After connecting the power supply, antenna, lock output and any auxiliary devices as shown in this manual and before powering up, a SIM card must be installed (the SIM must already be registered with the network provider). The SIM holder can be found on the back of the module next to the SMA antenna connection. A SIM card from most network providers can be used with the exception of the 3 network. Follow the steps below to insert the SIM card:

1. On the GSM module slide the SIM holder on the back of the unit to the right until it 'clicks', as shown in **Fig.34**.

2. The SIM holder is hinged and will open out to the right, see **Fig.35**.

3. Place the SIM card into the holder (it will only fit one way, see **Fig.36**) and fold the holder back down, see **Fig.37.**

4. Slide the SIM holder back to the left until it 'clicks', see **Fig.38**.

5. Once the SIM is in place connect the appropriate call buttons following the example shown in **Fig.3** and using the table on page 7 of this manual.

6. Connect the Art.432 GSM antenna and then connect the DR-15-12, 12Vdc power supply but **DO NOT** power up the system yet.

7. Follow the initialisation process described below.

Fig. 34

Fig. 35

Fig. 36

Fig. 37

Fig. 38
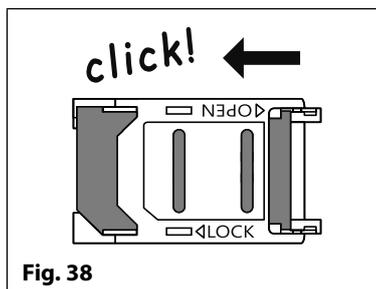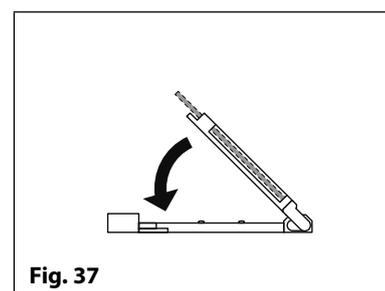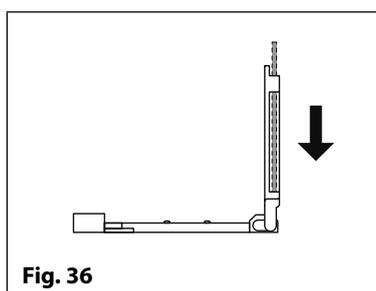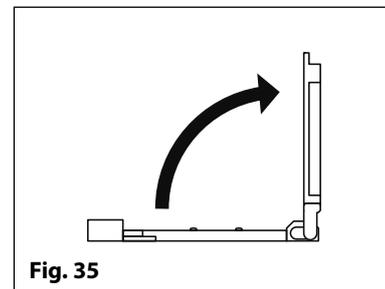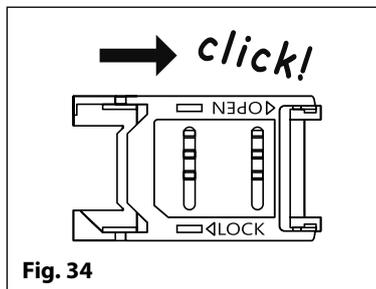
POWER UP INITIALISATION SEQUENCE

The GSM module requires approximately 30 seconds to initialise properly. We recommend **NOT** sending SMS messages or pressing buttons during this time.

1. First check all the connections have been made correctly and then power up the system.

2. Two short beeps will be heard from the GSM module and the busy LED will switch ON, as shown in **Fig.39**.

3. After approximately 10 seconds the busy LED will start to flash for a further 10 seconds and then emit a single beep, as shown in **Fig.40**.

4. The busy LED will continue to flash while it registers with the chosen network.

5. After a further delay the busy LED will stop flashing to indicate that the GSM module has registered with the network and is ready to begin programming.

If you hear a different combination of beeps during the initialisation process then you can find the meaning of these beeps towards the back of the manual.


Fig. 39

Fig. 40
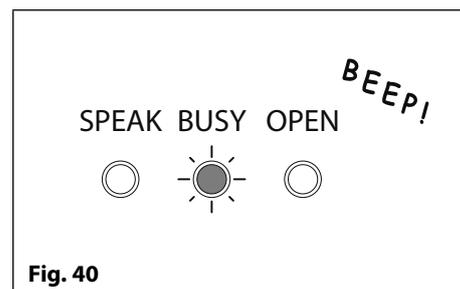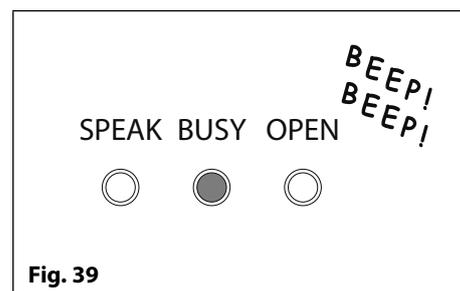
Reset Procedure

RESETTING THE GSM MODULE TO FACTORY DEFAULTS

There are two reset options for the GSM module. The first will reset the master code only and the second will reset everything and clear all stored telephone numbers, proximity cards and settings.

RESETTING THE MASTER CODE TO 1111 (4x1)

1. Ensure the power is switched OFF to the GSM module;

2. Short out the blue (c) and yellow (6) wires together from the button harness cable (refer to **Fig.3** and the button harness table on page 7);

3. Switch the power back ON to the GSM module;

4. Two short beeps will be heard from the GSM module and the busy LED will switch ON, as shown in **Fig.41**;

5. After approximately 5 seconds the busy LED will start to flash;

6. The busy LED will continue to flash for a further 15-20 seconds while it resets the master code and then emit a single beep, as shown in **Fig.42**;

7. After a short delay of approximately 5 seconds the busy LED will stop flashing, as shown in **Fig.43**, to indicate that the master code has been reset back to the factory default **1111** (4x1);

8. After the reset remove the short between the blue (c) and yellow (6) wires.

<u>IMPORTANT NOTE:</u> **When a master code reset is performed on the GSM module it will only reset the 4 digit programming code back to factory default 1111, all the settings and programmed information (telephone numbers, proximity fobs/cards, etc.) will still be stored in the GSM module.**
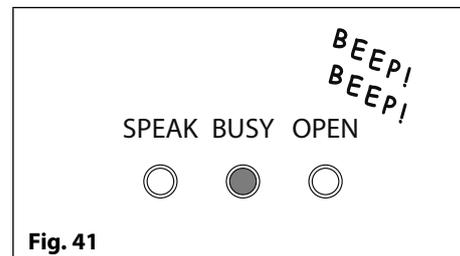
Fig. 41
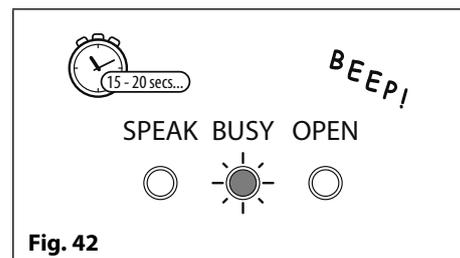
Fig. 42
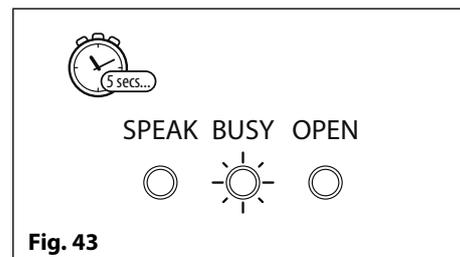


Fig. 43

FULL SYSTEM RESET

1. Ensure the power is switched OFF to the GSM module;

2. Short out the violet (d) and yellow (6) wires together from the button harness cable (refer to **Fig.3** and the button harness table on page 7);

3. Switch the power back ON to the GSM module;

4. Two short beeps will be heard from the GSM module and the busy LED will switch ON, as shown in **Fig.44**;

5. After approximately 8 seconds the busy LED will start to flash as shown in **Fig.45**;

6. The busy LED will continue to flash while it resets the GSM module;

7. After a short delay of approximately 6 seconds the busy LED will stop flashing and the GSM will emit a single beep to indicate that the module has been fully reset, as shown in **Fig.46**. All the settings will be reset back to factory default and any stored user information etc. will be deleted from the module;

8. After the reset remove the short between the violet (d) and yellow (6) wires.

<u>IMPORTANT NOTE:</u> **When a full system reset is performed on the GSM module it will default any settings back to factory presets and delete all the user information (telephone numbers, proximity fobs/cards etc.). This method of reset clears all the programming in the GSM module so it is advisable to save or record the information beforehand.**

If a high volume of information is stored in the GSM module it can be downloaded and saved using the GSMSK PC software, more details on how to do this can be found in the following manual: GSMSK_66251720_EN_V1-3 (or later version).
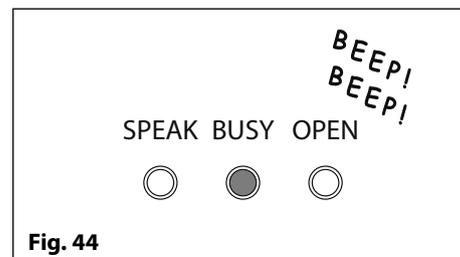

Fig. 44
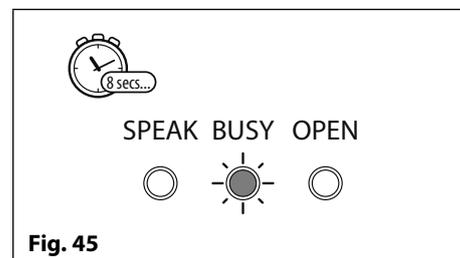
Fig. 45
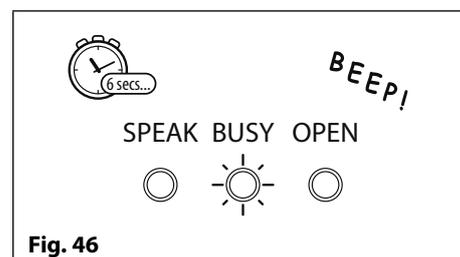
Fig. 46

4000 Series Back Box Installation

Fig. 47

Fig. 48

Fig. 49

Fig. 50

Fig. 51

Fig. 52

Fig. 53

Fig. 54

Fig. 55

Fig. 56

Fig. 57

Fig. 58

INSTALLING A SURFACE MOUNT DOOR STATION

1. Place the surface box against the wall (165-170cm between the top of the box and the floor level as shown in **Fig.47**) and mark the fixing holes Ⓐ for the wall plugs Ⓑ and the hole for the cables Ⓔ **(Fig.48).** <u>Observe the orientation of the surface box with the hinge mount Ⓜ on the left;</u>

> ⚠ **In order to prevent water ingress we highly recommend using a silicon sealant between the wall and the back box Ⓒ, ON THE LEFT, TOP AND RIGHT SIDES ONLY AND AROUND ALL THE HOLES Ⓓ. DON'T USE SILICON SEALANT ON THE BOTTOM SIDE OF THE BACK BOX (Fig.49);**

2. As shown in **Fig.48,** drill the fixing holes Ⓐ, insert the wall plugs Ⓑ and feed the cables Ⓔ through the surface box opening Ⓓ, fix the surface box Ⓒ to the wall using the screws Ⓕ;

3. Next fit the neoprene seal Ⓨ (removing the thin film first) along the top side of the module Ⓖ, as shown in **Fig.50;**

4. Before installation of the module support frame Ⓗ to the surface box Ⓒ, fit the module Ⓖ to the support frame Ⓗ as shown in **Fig. 51** then, as shown in **Fig.52,** fit the module fixing brackets Ⓙ using the fixing screws Ⓚ;

5. Next take the frame's hinges Ⓛ and hook the module support frame Ⓗ to the surface box Ⓒ, starting from the left following the guide arrows, as shown in **Fig.53.** Ensure that the frame's hinges Ⓛ **(Fig.53)** fit inside the relevant hinge mounts Ⓜ inside the surface box Ⓒ, following the guide arrows, as shown in **Fig.54**;

6. Pull back the module support frame Ⓗ from the surface box Ⓒ while moving it slightly to the left, following the guide arrows, as shown in **Fig.55**;

7. Next open the module support frame Ⓗ and clip the hinge locks Ⓝ to the hinge mounts Ⓜ, following the guide arrows, as shown in **Fig.56**;

8. Take the cable wires Ⓔ and make the required wiring connections into the terminals Ⓠ on the back of the module Ⓖ, as shown in **Fig.57**, using the screwdriver provided Ⓟ (from **Fig.58** and using the flat blade end);

9. Make any other necessary panel adjustments required, fitting the SIM card and setting the dip-switches etc. For the button module configuration refer to **Fig.3** and the button harness table on page 7 and for connecting the antenna refer to **Fig.7** on page 9;

10. After the system has been tested and is working correctly, move back the module support frame Ⓗ carefully and then fix it to the surface box Ⓒ using the screwdriver provided Ⓟ (using the torx end) and the torx pin security screws provided Ⓡ, as shown in **Fig.45**. <u>**Note: do not over tighten the screws more than is necessary.**</u>

> ⚠ **Note: if additional holes are made in the surface box, oxidation problems may appear unless the unprotected metal is coated with a protective paint.**

NOTES

• The screwdriver's blade has two sides, one flat and one torx, to select one of them unplug the blade from the screwdriver body and plug it into the required side;

• The example shows the use of only one back box hole Ⓓ for the wires, this is done to keep the file drawings clear. Naturally the installer can use more than one back box hole if required.

EXAMPLE: INSTALLING A 4000 SERIES TWO MODULE FLUSH BACK BOX (ART. 4852)

Fig. 59

Fig. 60

Fig. 61

Fig. 62

Fig. 63

Fig. 64

Fig. 65

Fig. 66

Fig. 67

Fig. 68

Fig. 69

Fig. 70
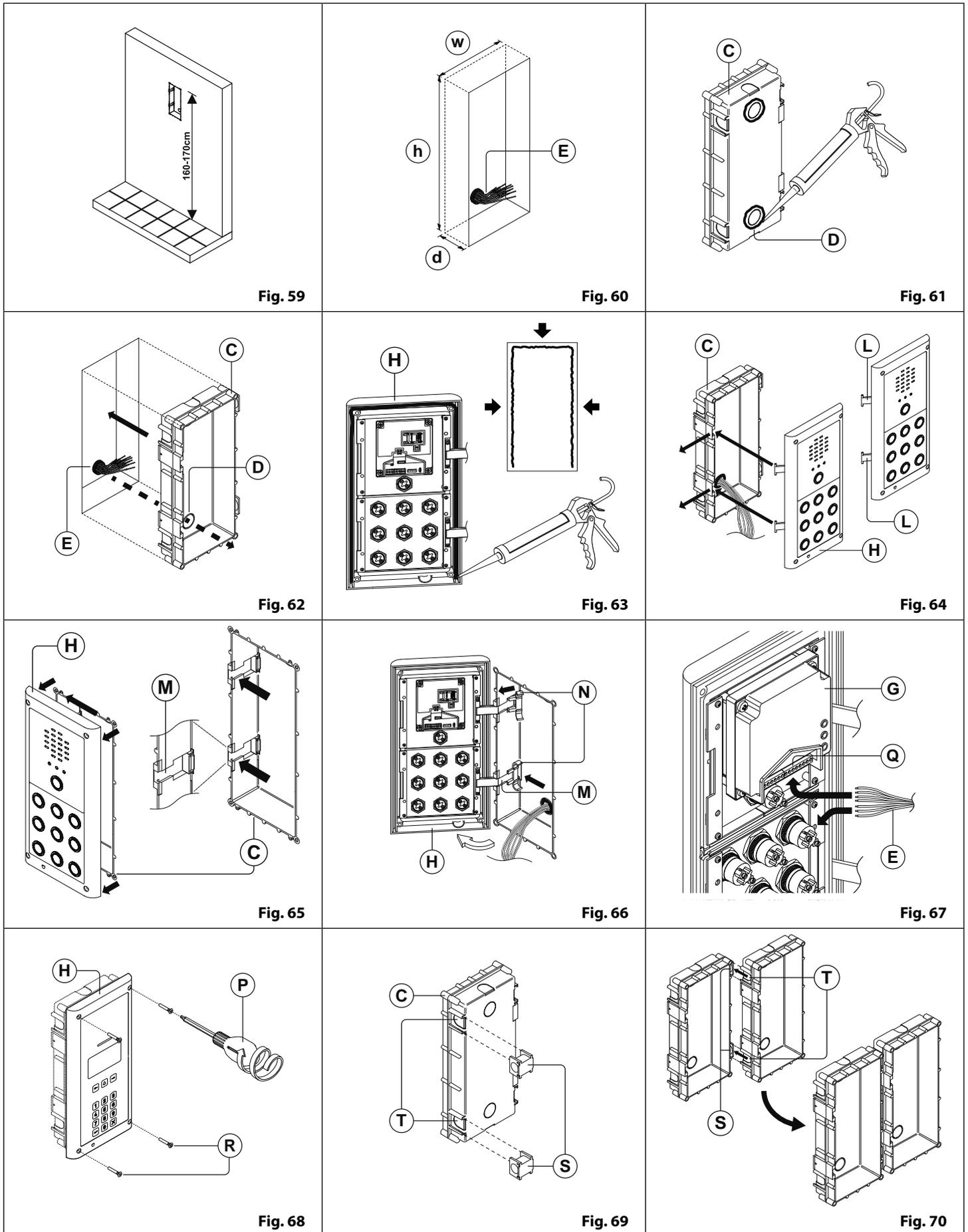
INSTALLING A FLUSH MOUNTING DOOR STATION

1. It is recommended that the flush box Ⓒ is mounted into the wall approximately 165-170cm between the top of the box and the floor level as shown in **Fig.59**.

2. Using the flush box Ⓒ and the hole dimensions **(w=120mm x h=263.2mm x d=46mm)**, as shown in **Fig.60**, use appropriate tools to cut out the recommended hole size in the wall (where required it may be necessary to wear the appropriate clothing, e.g. protective gloves and eye protection, when doing this). Remember to allow room for the connecting cables Ⓔ (**Fig.60**);

> ⚠ **Before fitting the flush box Ⓒ into the wall it is recommended that in order to prevent water ingress a silicon sealant is used between the wall and the flush box and around the flush box holes Ⓓ (Fig.61);**

3. Set the flush box Ⓒ into the hole in the wall feeding the connecting cables Ⓔ through the appropriate flush box hole Ⓓ, as shown in **Fig.62**;

4. Follow steps 3 and 4, from 'installing a surface mounting door station' , to fit the module into the module support frame Ⓗ as shown in **Fig.50, Fig.51** and **Fig.52** (on pages 34 and 35);

> ⚠ **In order to prevent water ingress it is highly recommended that a silicon sealant is used between the module support frame Ⓗ and the flush box. The silicon sealant should be used on the left, top and right sides only of the module support frame. Don't use silicon sealant on the bottom side of the module support frame Ⓗ (Fig.63);**

5. Take the frame's hinges Ⓛ and hook the module support frame Ⓗ to the flush box Ⓒ, starting from the left following the guide arrows, as shown in **Fig.64.** Ensure that the frame's hinges Ⓛ **(Fig.64)** fit inside the relevant hinge mounts Ⓜ inside the flush box Ⓒ, as shown in **Fig.65**;

6. Next close in the front support frame Ⓗ and then pull it back from the flush box Ⓒ while moving it slightly to the left, following the guide arrows, as shown in **Fig.65**;

7. With the front support frame Ⓗ opened out (to allow for easy access to the hinge mounts Ⓜ) take the hinge locks Ⓝ and clip them in place locking into the hinge mounts Ⓜ, following the guide arrows as shown in **Fig.66**;

8. Take the cable wires Ⓔ and make the required wiring connections into the terminals Ⓠ on the back of the module Ⓖ, as shown in **Fig.67**, using the screwdriver provided Ⓟ (from **Fig.68** and using the flat blade end);

9. Make any other necessary panel adjustments required, fitting the SIM card and setting the dip-switches etc. For the button module configuration refer to **Fig.3** and the button harness table on page 7 and for connecting the antenna refer to **Fig.7** on page 9;

10. After the system has been tested and is working correctly, move back the module support frame Ⓗ carefully and then fix it to the flush box Ⓒ using the screwdriver provided Ⓟ (using the torx end) and the torx pin security screws provided Ⓡ, as shown in **Fig.68. <u>Note: do not over tighten the screws more than is necessary.</u>**

FITTING ADDITIONAL FLUSH BOXES

If the number of flush back box modules exceeds 3 modules, the required back boxes need to be linked together before embedding them into the wall (follow the steps below). It should also be noted that the size of the hole in the wall will vary depending on the number of flush box modules required, please refer to the flush box dimension table on page 8 to obtain the width, height and depth of the hole required.

1. Take the flush box clips Ⓢ and slide them into the side slots Ⓣ on the **1st** flush box, as shown in **Fig.69**;

2. Next take the **2nd** flush box module and align the side slots Ⓣ (on the **2nd** flush box) with the side clips Ⓢ from the **1st** flush box. Following the guide arrows push down on the **2nd** flush box so that it clips into position, as shown in **Fig.70**.

NOTES

- The screwdriver's blade has two sides, one flat and one torx, to select one of them unplug the blade from the screwdriver body and plug it into the required side;

- The example shows the use of only one back box hole Ⓓ for the wires, this is done to keep the file drawings clear. Naturally the installer can use more than one back box hole if required.

Programming the GSM Intercom

PROGRAMMING THE GSM INTERCOM

Programming the GSM intercom can be carried out in two ways, either by sending text (SMS) messages or by using the GSMSK PC software (ver 3.1.0.10 or later), also refer to the programming manual **GSMSK-66251720-EN-V1-3** (or later).

<u>IMPORTANT NOTE:</u> **When you are required to use " in a text message it is very important to use the correct symbol and not for example ' (or two ' single apostrophes side by side which you will see look the same but will be interpreted differently by the GSM intercom panel).**

PROGRAMMING BY TEXT MESSAGE

Programming by text message is a simple way to customise the settings of the GSM intercom panel and add or delete telephone numbers. If you have a large number of buttons or telephone numbers to enter you may find programming easier with the GSMSK PC software. Simply send texts in the following format shown below to the telephone number of the SIM within the GSM intercom panel:

<center><4 DIGIT CODE> <3 DIGIT FUNCTION CODE> <OPTIONAL DATA> <OPTIONAL ?></center>

4 DIGIT CODE	This code prevents unauthorised access to the programmable features of the system. The code must be four digits long but can be any combination using digits 0 – 9. The default code is 1111 and will be used for all examples in this manual.
3 DIGIT FUNCTION CODE	The 3 digit function code identifies the programmable feature to be changed. The code must be in capital letters. The following table lists the available codes.

DESCRIPTION	CODE	EXAMPLE	SETTINGS	DEFAULT	PAGE
Store a primary telephone no.	**STN**	1111STNnnn"01912243174"	nnn = 001 - 024	n/a	39
Store divert 1 telephone no.	**STD**	1111STDnnn"01912241559"	nnn = 001 - 024	n/a	39
Store divert 2 telephone no.	**STE**	1111STEnnn"01912243678"	nnn = 001 - 024	n/a	39
Store divert 3 telephone no.	**STF**	1111STFnnn"01912245326"	nnn = 001 - 024	n/a	39
Store dial to open no.	**STR**	1111STRnnn"07771234567"	nnn = 000 - 999	n/a	40
Set call time	**SPT**	1111SPTnn	nn = 01 - 12	02 *(40s)*	40
Set relay time	**RLT**	1111RLTnn	nn = 00 - 99	05 *(5s)*	40
Set auxiliary AO output time	**A1T**	1111A1Tnn	nn = 00 - 99	05 *(5s)*	40
Set auxiliary AO out mode	**A1M**	1111A1Mnn	nn = 00 - 02	01	41
Keep connection facility	**NOD**	1111NODnn	nn = 01 - 99	0 *(disabled)*	41
Divert to next no. time	**DIT**	1111DITnn	nn = 01 - 99	15 *(15s)*	41
Check GSM signal strength	**SIG**	1111SIG?	n/a	n/a	41
Check software version	**VER**	1111VER?	n/a	n/a	41
Dial a number	**DLE**	1111DLE"123"	n/a	n/a	42
Change 4 digit code	**CDE**	1111CDE1234	Any 4 digits	1111	42
Trigger the relay	**RLY**	1111RLY	n/a	n/a	42
Trigger the auxiliary output AO	**A1O**	1111A1O	n/a	n/a	42
Store balance check dial string	**SDL**	1111SDL"*#1345#"	n/a	n/a	42
Check credit balance	**BAL**	1111BAL?	n/a	n/a	42 - 43
Store master telephone no.	**STM**	1111STM"07771234567"	n/a	n/a	43
Latch the relay	**RLA**	1111RLA	n/a	n/a	43
Unlatch the relay	**RUL**	1111RUL	n/a	n/a	43
Latch the auxiliary AO output	**A1L**	1111A1L	n/a	n/a	43
Unlatch the auxiliary AO output	**A1U**	1111A1U	n/a	n/a	43
Store time band	**TBA**	1111TBA"06002300"	HHMMHHMM	00002359	44
Check/Set date & time	**CLK**	1111CLK"yy/mm/dd,hh:mm"?	yy/mm/dd,hh:mm	n/a	44
Silent dialling mode	**AUE**	1111AUEnn	nn = 00 or 01	01	44
Send tone after answer (But 1)	**DTP**	1111DTPn	n = 0 - 9 or X	X	44 - 45
Send tone after answer (Div 1)	**DTD**	1111DTDn	n = 0 - 9 or X	X	44 - 45

Send DTMF tone delay	DTT	1111DTTnn	nn = 01 - 12	03	44 - 45
Enable dial 0 on answer function	EDZ	1111EDZnn?	nn = 00 or 01	00	45
Enable # (hash) function	ED#	1111ED#nn?	nn = 00 or 01	00	45
Enable proximity	EPR	1111EPRnn?	nn = 00 or 01	00	46
Proximity number of bytes to check	PBY	1111PBYnn?	nn = 02, 03 or 04	02	46
Store/query a fob or card	FOB	1111FOBnnn"site""user"	nnn = 000 - 999	n/a	46 - 47
Find a telephone number	FDT	1111FDT" number or ends in"	n/a	n/a	47
Find a fob or card number	FDF	1111FDF"user code"	n/a	n/a	47
End on Last Divert	EOD	1111EODnn?	nn = 00 or 01	00	48
Shutdown and Restart	RBT	1111RBT	n/a	n/a	48
Initiate a special command	PRG	1111PRG(command)	AT commands	n/a	48
AT command to send at start up	AT1	1111AT1"ATxxxxxx"?	Any AT command	n/a	48
AT command to send at start up	AT2	1111AT2"ATxxxxxx"?	Any AT command	n/a	48
AT command to send at start up	AT3	1111AT3"ATxxxxxx"?	Any AT command	n/a	48

OPTIONAL DATA   The optional data will vary depending on the command used. It may be a telephone number, a time setting or may not be used at all. For more information refer to the following command settings.

OPTIONAL ?   Most of the commands support the ? feature. When this is added to the end of the text message, a confirmation text message will be sent back to the sender indicating the new data has been received and stored.

When sending text messages there may be a delay from when you send the message to when it is received by the GSM intercom depending on how congested the network is. If you are at the door panel when sending the message you will hear a short single beep from the GSM intercom to indicate it has successfully received the message. For unsuccessful (error) messages the GSM intercom will indicate this with two long beeps.

STORING THE CALL BUTTON TELEPHONE NUMBERS (STN, STD, STE AND STF)

Telephone numbers can be stored for the 24 available call buttons. Each call button can call up to four telephone numbers (if the first is busy or not answered in a certain time it can call a 2nd, 3rd and 4th number if the divert facility is setup). The STN code stores the first number called (primary telephone number) when the button is pressed. The STD, STE and STF codes stores the diverted telephone numbers if the first is busy or not answered (the GSM intercom will divert to the 2nd number then divert to the 3rd number and finally the 4th number). The messages to store/check numbers are as follows (replace STN with STD, STE or STF when storing/checking divert numbers).

1111STNnnn"yyyyyyyyyy"	Store the primary telephone number yyyyyyyyyy in position nnn.
1111STNnnn"yyyyyyyyyy"?	Store the telephone number yyyyyyyyy in position nnn and send a confirmation text message to confirm storage of new number.
1111STNnnn?	Query the telephone number stored in location nnn. A text message will be sent to the sender with the stored number for that location.
1111STNnnn""	Delete the telephone number stored in location nnn.
1111STNnnn""?	Delete the telephone number stored in location nnn. A text message will be sent to the sender with the delete confirmation for that location.

nnn is a button number between 001 & 024. The telephone number y can be a maximum of 30 digits. For example: to store the number 01912243174 for button 5 and three divert numbers (if that one is not answered or busy) of 01912241558, 07771234567 and 01912241559 respectively, the following SMS messages would be sent to the GSM intercom:

<div align="center">

1111STN005"01912243174"

1111STD005"01912241558"

1111STE005"07771234567"

1111STF005"01912241559"

</div>

STORING A TELEPHONE NUMBER FOR DIAL IN DOOR RELEASE (STR)

Dial in door release allows users to release the door/gate simply by dialling the telephone number of the SIM in the GSM intercom panel. The intercom panel will check the callers ID when it receives a call and if it matches the list of stored numbers, it will clear the call down (avoiding the caller being charged for the call) and will activate the relay for the programmed time. Up to 1000 numbers can be stored. The messages to check, store or delete numbers are as follows.

1111STRnnn"yyyyyyyyyy"	Store the telephone number yyyyyyyyyy in position nnn, where nnn = 000 - 999.
1111STRnnn"yyyyyyyyyy"?	Store the telephone number yyyyyyyyyy in position nnn, where nnn = 000 - 999, and send a confirmation text message to confirm storage of new number.
1111STRnnn?	Query the telephone number stored in location nnn, where nnn = 000 - 999. A text message will be sent to the sender with the stored number for that location.
1111STRnnn""	Delete the telephone number stored in location nnn, where nnn = 000 - 999.
1111STRnnn""?	Delete and confirm deletion of a telephone number in location nnn, where nnn = 000 - 999.

<u>IMPORTANT NOTE:</u> **It is important to switch OFF voicemail and automatic SMS features on the SIM card in the GSM intercom when using this feature (see the 'Forced Dial' section for more details). Also note that it will not be possible to use the dial in to speak facility from a number stored to release the door/gate when dialling in (door release takes priority).**

Please also note it is important that the number stored, when dialling in to release the door/gate, must have any "caller ID" or "withheld number" function switched OFF on the telephone/mobile that is making the call to the GSM intercom. If this feature is not switched OFF the GSM intercom will not recognise the caller's number.

SET CALL TIME (SPT)

The call time is the maximum time in seconds that a call can last before the intercom panel automatically clears the call down. The time can be from 20 seconds up to 240 seconds (4 minutes) and begins from when the call button is pressed. The default time is 40 seconds. The following messages are used to set/check the maximum call time.

1111SPTnn	Store the time nn x 20 seconds (e.g. nn = 03, time = 60 seconds).
1111SPTnn?	Store the time nn x 20 seconds (e.g. nn = 02, time = 40 seconds. Also send a confirmation text back to the sender.
1111SPT?	Query the current stored time. A text message will be sent back to the sender showing the stored time (remember to multiply the number in the received text by 20 seconds).

nn multiplier:

nn = 01, time = 20 secs	nn = 02, time = 40 secs	nn = 03, time = 60 secs
nn = 04, time = 80 secs	nn = 05, time = 100 secs	nn = 06, time = 120 secs
nn = 07, time = 140 secs	nn = 08, time = 160 secs	nn = 09, time = 180 secs
nn = 10, time = 200 secs	nn = 11, time = 220 secs	nn = 12, time = 240 secs

SET RELAY TIME (RLT)

The relay time can be from 01 – 99 seconds or latching (set the relay time to 00 for latched mode. In latch mode, the relay will stay energised until the command is sent again).

1111RLTnn	Store the relay time nn = time in seconds (e.g. nn = 05, time = 5 seconds).
1111RLTnn?	Store the relay time nn = time in seconds. Also send a confirmation text back to the sender.
1111RLT?	Query the current stored relay time. A text message will be sent back to the sender showing the stored relay time.

SET AUXILIARY OUTPUT AO TIME (A1T, FOR A1M = 01 ONLY)

The auxiliary output AO time can be set from 01 - 99 seconds or latching (set the AO output time to 00 for latched mode. In latch mode the AO output will stay triggered until the relevant command is sent again to unlatch the AO output. This option is only available when the AO output mode, **A1M**, is set to mode 01. Please refer to the **A1M** commands below for more details).

1111A1Tnn	Store the AO time nn = time in seconds (e.g. nn = 05, time = 5 seconds).
1111A1Tnn?	Store the AO time nn = time in seconds. Also send a confirmation text back to the sender.
1111A1T?	Query the current stored AO time. A text message will be sent back to the sender showing the stored AO time.

SET AUXILIARY OUTPUT AO MODE (A1M, MODES 00 - 02)

The auxiliary output AO has up to 3 modes that can be set:

Call Activated (on during a call): nn = 00

AO output will activate when a call begins and deactivate when a call ends. See example on page 26.

User Activated (on when triggered): nn = 01 (default)

To activate the AO output either short terminals g to 5 (auxiliary 1 input AI) on the GSM intercom or press 6 on the telephone during a call. See example on page 26.

Call Activated (Timed, on at the beginning of the call for the programmed AO time): nn = 02

AO output will activate when a call begins and deactivate when the auxiliary 1 output time (**A1T**) expires. See example on page 27.

1111A1Mnn	Store the AO mode nn = 00 - 02.
1111A1Mnn?	Store the AO mode nn = 00 - 02. Also send a confirmation text back to the sender.
1111A1M?	Query the current stored AO mode. A text message will be sent back to the sender showing the stored A1O mode.

SET DAYS TO WAIT BEFORE MAKING A CALL (NOD)

In the event the GSM intercom panel is not used for long periods of time it could be possible that the network disconnects it. To prevent this from happening it is possible to program a time period (from 01 – 99 days or disabled 00) to wait before the intercom panel makes a short call to refresh the connection to the network. This time period is reset after each call is made on the system and will only happen if the full time period elapses without any incoming or outgoing calls.

1111NODnn	Store the time nn = time in days (e.g. nn = 07, time = 7 days).
1111NODnn?	Store the time nn = time in days. Also send a confirmation text back to the sender.
1111NOD?	Query the current stored time. A text message will be sent back to the sender showing the stored time.

DIVERT TIME (DIT)

The divert time is the number of seconds to wait for a call to be answered before diverting to the 2nd, 3rd and 4th number. The default time is 15 seconds (the count down begins from when the call button is pressed, but is refreshed when the telephone begins to ring) and can be set from 01 – 99 seconds.

1111DITnn	Store the divert time nn = time in seconds (e.g. nn = 15, time = 15 seconds).
1111DITnn?	Store the divert time nn = time in seconds. Also send a confirmation text back to the sender.
1111DIT?	Query the current stored divert time. A text message will be sent back to the sender showing the stored divert time.

CHECK SIGNAL STRENGTH (SIG)

At any time the signal strength of the GSM intercom can be checked (also see notes on understanding the signal strength on page nn). It is advisable that when the GSM is first setup and before any other programming is carried out to check the signal strength of the GSM intercom. If the signal strength is too low the GSM intercom may not operate properly and therefore the GSM antenna will need to be repositioned to increase the signal strength. Use the following command to check the signal strength.

1111SIG?	Check the signal strength of the GSM intercom and send a confirmation text back to the sender.

CHECK SOFTWARE VERSION (VER)

It is possible to check the current version of software on the GSM intercom. This may be necessary to see if an update is required for any additional features or updates on the GSM intercom which may be included on later versions. Use the following command to check the software version.

1111VER?	Check the software version of the GSM intercom and send a confirmation text back to the sender.

FORCED DIAL/DIAL A NUMBER (DLE)

A useful feature of the GSM intercom panel is its ability to call a number sent to it in a text message. This feature can be used when setting up the SIM card. For example, disabling the voicemail facility or disabling automatic SMS messages or missed calls. Any number up to 15 digits can be called and the call will last for a maximum of 40 seconds. The example below would switch off voicemail on a Vodafone SIM card. Substitute the Vodafone number for other service providers.

1111DLE"1210"	Dial 1210 for the intercom panel.

Other useful numbers which can be used with this feature are as follows. Please also check the service provider's web sites for other useful codes.

	Vodafone	O^2
DISABLE VOICEMAIL	1210	1760
DISABLE TEXT ALERTS	#148#	1760

IMPORTANT NOTE: Disabling voicemail and text alerts is very important as there is no way to retrieve either of these services from a GSM intercom panel. Disabling these features will also prevent the intercom panel switching to voicemail or sending a text when dialling in from another phone.

CHANGE THE FOUR DIGIT CODE (CDE)

The four digit code can be any combination of numbers between 0-9 but must be 4 digits long. The code allows access to the programming menu in dial in mode and must be used when sending text messages to the GSM intercom panel. Use the following message to change the code.

1111CDEnnnn	Change the 4 digit code to nnnn (where nnnn = new 4 digit code).

TRIGGER THE RELAY (RLY)

There are several ways to trigger the GSM relay. The first is to press button 3 on the telephone during a call and the relay will operate for the programmed time. Another way is to send the following text message.

1111RLY	Operate the GSM relay (for the programmed time).
1111RLY?	Operate the GSM relay (for the programmed time) and send a confirmation text back to the sender.

TRIGGER AUXILIARY OUTPUT AO (A1O)

It is possible to trigger the auxiliary output AO for the programmed **A1T** output time (please note that this method of triggering auxiliary output AO is only possible when the **A1M** mode has been set to mode 01, refer to page 41 and the example on page 26). The auxiliary output AO can be triggered by pressing button 6 on the telephone during a call or by sending the following message to the GSM intercom.

1111A1O	Trigger auxiliary output AO (for the programmed A1T time).
1111A1O?	Trigger auxiliary output AO (for the programmed A1T time) and send a confirmation text back to the sender.

STORE BALANCE CHECK DIAL STRING (SDL)

Several network providers offer the facility to check available balance on their pay as you go tariffs. For example, on Vodafone the string is *#1345# and on O2 the string is *#10#. Other networks may also have this feature. Because the intercom will not know the details of the network provider's SIM card which you have inserted it will be necessary to store the correct string in order to use the credit balance check features.

1111SDL"*#1345#"	Store the balance check string for a Vodafone pay as you go.
1111SDL"*#10#"	Store the balance check string for an O^2 pay as you go.

IMPORTANT NOTE: Videx are only aware of the balance check dial string codes for the network providers mentioned above. Check dial string codes for other networks are currently unavailable at this time. Please also note that this programming function is only applicable for pay as you go SIM cards.

CHECK CREDIT BALANCE (BAL)

The balance can only be checked if the correct balance check string has previously been stored using the **SDL** code explained above. At any point the user will be able to send the following text message and the GSM intercom will reply with the current balance stored on the SIM card.

1111BAL?	Check current balance of the SIM in the GSM intercom and send a confirmation text back to the sender.

In addition to this feature the GSM intercom also has the facility to monitor the available credit and then text the user to inform them when the credit has fallen below £5.00, €5.00 or $5.00. It will then remind the user with another text after every 5 calls until the credit has either increased or if it runs out.

To use this feature, the following settings must first be made:

1. A Pay As You Go SIM card from a provider that offers this service (Vodafone, O2) must be used.

2. The correct balance check string must be stored using the **SDL** code (see store balance check dial string on page 42).

3. A mobile phone number that is to receive the 'balance low' text must be stored in the master telephone number location using the **STM** code (refer to 'store master telephone number' feature below).

STORE THE MASTER TELEPHONE NUMBER (STM)

The master telephone number is the number which will receive automatic balance updates when the balance gets low (if this feature is setup) To store a master telephone number the following programming texts can be sent to the GSM intercom.

1111STM"yyyyyyyyyy"	Store the telephone number yyyyyyyyyy.
1111STM"yyyyyyyyyy"?	Store the telephone number yyyyyyyyyy and send a confirmation text back to the sender.
1111STM?	Query the master telephone number stored. A text message will be sent to the sender with the stored number for that location.
1111STM""	Delete the master telephone number stored.
1111STM""?	Delete the master telephone number stored and send a confirmation text back to the sender.

LATCH THE RELAY (RLA)

It is possible to latch the GSM intercom relay closed. This function is particularly useful if the GSM intercom relay is connected to a gate controller and the user wishes to 'hold open' the gate. The following text message can be sent to the GSM intercom.

1111RLA	Latch the GSM relay to the C/NO position.
1111RLA?	Latch the GSM relay to the C/NO position and send a confirmation text back to the sender.

UNLATCH THE RELAY (RUL)

If the GSM intercom relay has been latched it is possible to unlatch the relay with the following text message.

1111RUL	Unlatch the GSM relay back to the C/NC position.
1111RUL?	Latch the GSM relay to the C/NC position and send a confirmation text back to the sender.

<u>IMPORTANT NOTE:</u> **The GSM intercom relay can also be unlatched by pressing 3 on the telephone during a call.**

LATCH AUXILIARY OUTPUT AO (A1L)

The auxiliary output AO, like the onboard relay, can be latched. To latch auxiliary output AO the following text message can be sent to the GSM intercom.

1111A1L	Latch auxiliary output AO.
1111A1L?	Latch auxiliary output AO and send a confirmation text back to the sender.

UNLATCH AUXILIARY OUTPUT AO (A1U)

The auxiliary output AO can also be unlatched. To unlatch auxiliary output AO the following text message can be sent to the GSM intercom.

1111A1U	Unlatch auxiliary output AO.
1111A1U?	Unlatch auxiliary output AO and send a confirmation text back to the sender.

STORE TIME BAND (TBA)

<u>IMPORTANT NOTE:</u> This feature relies on the network providers time zone setting and also if they support NITZ (Network Identity and Time Zone). First check the time/date is correct by sending the SMS message 1111CLK? (also refer to check intercoms time & date feature below). If the time/date returned is incorrect, it maybe that they do not support it. The clock can be set manually but any power cut will result in the time and date being lost unless battery backup is included.

The time band feature allows the call buttons to be disabled or diverted to the master telephone number outside a certain time window. For example, if the time band is set from 6:00am to 11:30pm then the user will only receive calls between the hours of 06:00 in the morning until 23:30 at night. Remember to always use the 24hr clock notation and also ensure the start time is earlier than the stop time. Use the following text messages to store, query and delete the time band.

1111TBA"HHMMHHMM"	Store the time using this format. The first HHMM is the **start** time to receive calls (i.e. 0600 for 6am in the morning) and the second HHMM is the time to **stop** receiving calls (i.e. 2330 for 11:30pm at night).
1111TBA"HHMMHHMM"?	As above but also send a confirmation text back to the sender with the stored setting.
1111TBA?	Query time band setting. A text message will be sent to the sender with the stored time window.
1111TBA""	Delete the time band and allow calls to be received at any time.
1111TBA""?	Delete and confirm deletion of the time band.

CHECK/SET DATE & TIME (CLK)

The check date and time feature relies on the network providers time zone setting (also refer to important note above). After a SIM has been placed into the GSM intercom and powered up the SIM will attempt to register with the network and automatically synchronise with the network providers time zone setting. The following text messages can be sent to the GSM intercom to check and set the current time and date. The date and time format is as follows: yy/mm/dd, hh:mm, where yy = year, mm = month, dd = date and hh = hour, mm = minutes.

1111CLK?	Check current time & date and send a confirmation text back to the sender.
1111CLK"yy/mm/dd,hh:mm"	Set current time & date.
1111CLK"yy/mm/dd,hh:mm"?	Set current time & date and send a confirmation text back to the sender.

Example: Setting the current time & date to 10:05am, 18th April 2016, the following text can be sent to the GSM intercom:

1111CLK"16/04/18,10:05"?

The GSM intercom will reply with the following text:

CLK = 16/04/18, 10.05
OK
VIDEX GSM

SILENT DIALLING MODE (AUE)

When the GSM intercom is calling the telephone number stored there is a choice of either hearing the ringing tone from the intercom panel or just hearing beeps to indicate a call is in progress.

- Ringing heard during calling: nn = 01
- Beeps heard during calling: nn = 00

The following text messages can be sent to the GSM intercom to enable (00), disable (01) or query the setting of the silent dialling feature. By default this feature is disabled i.e. set to 01, a ringing tone will be heard whilst dialling the number.

1111AUEnn	Set the silent dialling mode nn: 01 or 00.
1111AUEnn?	Set the silent dialling mode nn: 01 or 00 and send a confirmation text back to the sender.
1111AUE?	Query the current mode stored. A text message will be sent back to the sender confirming which silent dialling mode has been set.

SEND DTMF TONE AFTER CALL ANSWERED FOR CALL BUTTON 1(DTP, DTD AND DTT)

It is possible to set the GSM intercom to send a DTMF tone after a call is answered. This option is only available for both the primary number of button 1 and the divert 1 number for button 1. This feature is useful if the intercom is dialling into a telephone system where an automated menu is present and a DTMF tone is required to select a particular option from the menu. By default this feature is disabled. The following programming text messages allow the user to setup the DTMF tone(s) required.

- The DTP command sets the DTMF tone required (from 0 - 9) after a call is answered for button 1.

- The DTD command sets the DTMF tone required (from 0 - 9) after divert 1 call is answered for button 1.

- The DTT command sets the delay time from when the call is answered to when the DTMF is sent.

SET DTMF TONE REQUIRED FOR BUTTON 1 PRIMARY CALL	
1111DTPn	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature (for button 1).
1111DTPn?	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature. Also send a confirmation text back to the sender with the stored DTMF tone setting (for button 1).
SET DTMF TONE REQUIRED FOR BUTTON 1 DIVERT CALL	
1111DTDn	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature (for divert 1).
1111DTDn?	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature. Also send a confirmation text back to the sender with the stored DTMF tone setting (for divert 1).
SET THE DELAY TIME FROM WHEN THE CALL IS ANSWERED TO WHEN THE DTMF TONE IS SENT	
1111DTTnn	Set the time nn, where nn = 01 - 12 seconds.
1111DTTnn?	Set the time nn, where nn = 01 - 12 seconds and also send a confirmation text back to the sender of the time stored.
QUERY THE SETTINGS	
1111DTP?	Query the DTMF tone set, replies TP = n.
1111DTD?	Query the DTMF tone set, replies TD = n.
1111DTT?	Query the delay time set, replies TT = nn.

ENABLE THE DIAL '0' ON ANSWER FUNCTION (EDZ)

When enabled this feature allows an incoming call to be diverted to the programmed divert telephone number if the '0' button on the telephone has not been pressed after answering the call. This can be useful if the user's number has an answerphone service (or answer machine) and they do not want the call to be answered by this service or if the primary number (mobile no.) is switched off.

By default this function is disabled (set to 00). The following texts can be used to enable or disable this function.

1111EDZnn	Set the dial '0' function nn: 01 or 00 (01 = enable, 00 = disabled).
1111EDZnn?	Set the dial '0' function nn: 01 or 00 (01 = enable, 00 = disabled) also send a confirmation text back to the sender.
1111EDZ?	Query the dial '0' mode set.

When this feature is set the user answering the call must press '0' on their phone to accept the call otherwise the call will be diverted to the next number.

ENABLE THE # (HASH) FUNCTION (ED#)

Once enabled the end user must press the # button on their phone before pressing any other button (also refer to the user command table on page 50) with the exception of when the user needs to enter the 4 digit programming code **"1111"**.

The user will have up to 3 seconds to press the user command button (e.g. button **3** to activate the relay), if the user doesn't press the next button within the 3 second window they will have to press the # button again.

By default this function is disabled (set to 00). The following texts can be used to enable or disable this function.

1111ED#nn	Set the # function nn: 01 or 00 (01 = enable, 00 = disabled).
1111ED#nn?	Set the # function nn: 01 or 00 (01 = enable, 00 = disabled) also send a confirmation text back to the sender.
1111ED#?	Query the # mode set.

ENABLE PROXIMITY READER (EPR)

<u>IMPORTANT NOTE:</u> **As the Art.VR4KGSM module does not have a built-in proximity reader a Wiegand proximity reader (Art. VR4KPPM) must first be connected to the GSM intercom (refer to notes on page 21 and 22 for connection) and then enabled.**

The Wiegand proximity reader can be enabled or disabled. By default this function is disabled. The following programming texts are used to enable or disable the proximity reader.

1111EPRnn	Set proximity reader nn: 01 or 00 (01 = enabled, 00 = disabled).
1111EPRnn?	Set proximity reader nn: 01 or 00 (01 = enabled, 00 = disabled) and send a confirmation text back to the sender.
1111EPR?	Query mode. A text message will be sent back to the sender confirming if the proximity reader is enabled or disabled.

PROXIMITY NUMBER OF BYTES TO CHECK (PBY, 02, 03 & 04)

This function will only be applicable if the Wiegand proximity reader has been connected and enabled (see **EPR** function above). After the proximity reader is enabled the number of bytes that the reader checks is dependant on which type of proximity fob/card is used (also refer to the GSM PC software manual **GSMSK-66251720-EN-V1-3** (or later).

Understanding the Fob Format and Card Number

It is important to understand the relationship between the fob format and the card number when setting up the proximity reader to check for the correct number of bytes.

- **Fobs/Cards with 5 digit number (user code):** If a proximity fob/card has no site code but a 5 digit user code (e.g. 955/T or 955/C) the **PBY** format should be set to check for 2 bytes (02).

- **Fobs/Cards with 3 digit site code and 5 digit user code:** If using a fob/card with a 3 digit site code and 5 digit user code (e.g. PBX1E or PBX2) the **PBY** format can be set to check for 2 bytes (02) or 3 bytes (03).

- **Fobs/Cards programmed using the PROXE desktop reader:** If using the PROXE desktop reader the **PBY** format can be set to check for 2 bytes (02), 3 bytes (03) or 4 bytes (04).

The default setting for this function is set to check for 2 bytes, '02'. The following texts can be used to change this setting.

1111PBYnn	Set proximity reader to check for number of bytes nn: 02, 03 or 04 (02 = check for 2 bytes, 03 = check for 3 bytes, 04 = check for 4 bytes).
1111PBYnn?	as above and send a confirmation text back to the sender.
1111PBY?	Query the number of bytes that the GSM PRO has been set to check for.

PBY setting	Description
2 bytes	Will read all fobs/cards types programmed.
3 bytes	Will not read fobs/cards programmed with only 2 bytes (5 digit) information.
4 bytes	Will not read fobs/cards programmed with only 2 bytes (5 digit) or 3 bytes (8 digit) information.

<u>IMPORTANT NOTE:</u> **It is recommended that only one fob/card type is used to allow for easier set up and programming of the proximity reader. <u>HID and Mifare cards cannot be used.</u>**

STORE/QUERY A PROXIMITY FOB/CARD (FOB, 000 - 999)

Once the built-in proximity reader has been enabled and the number of bytes to check for has been set (refer to the **EPR** and **PBY** setup described above) the proximity fobs/cards can be programmed into the GSM intercom.

The GSM intercom can store up to 1000 fobs/card (000 - 999). The Art.VR4KPPM proximity reader can be programmed with any one of the following fobs:

- **955/T or 955/C** = Videx fobs or cards. These fobs and cards have no site code and have a 5 digit user code, so the **PBY** function must be set to 02 (the default setting, checking for 2 bytes).

- **PBX1E or PBX2** = Portal Plus fobs or cards. These fobs and cards have a 3 digit site code and 5 digit user code, so the **PBY** function can be set to 02 or 03.

The following texts can be used to program fobs or cards.

1111FOBnnn"site","user"	Store fob/card in location nnn, where nnn = the memory location from 000 - 999 of where the fob/card is actually stored (see examples below for each type of fob/card). The "site" and "user" code is the number taken directly from the fob/card.

1111FOBnnn?	Query the fob/card stored in memory location nnn and send a confirmation text back to the sender with the stored fob/card details.

The following examples show how to program each fob/card type:

Example 1: Programming a **955/T** or **955/C** with no site code, a 5 digit user code of **12345** and storing it in memory location **001**, the following text can be sent to the GSM intercom:

<p align="center">1111FOB001"0","12345"</p>

(for these fob/card types a '0' must be inserted for the "site" code).

Example 2: Programming a **PBX1E** or **PBX2** with a 3 digit site code of 123, a 5 digit user code of **45678** and storing it in memory location **010**, the following text can be sent to the GSM intercom:

<p align="center">1111FOB010"123","45678"</p>

FIND A TELEPHONE NUMBER (FDT)

The find a telephone number feature allows the user to find the dial to open location (between 000 - 999) of where a particular telephone number is stored in the GSM intercom. It can locate the number either from using the full telephone number or a minimum of the last 4 digits of a number (see following examples). The following text messages can be used.

1111FDT"yyyyyyyyyy"?	Find dial to open location of telephone number yyyyyyyyyy stored, where yyyyyyyyyy = telephone number (minimum of 4 digits).

Example 1: Find dial to open location of the telephone number using the full number **01234567890**, the following text can be sent to the GSM intercom:

<p align="center">1111FDT"01234567890"?</p>

The GSM intercom will reply with the following text:

<p align="center">STORED IN nnn
OK
VIDEX GSM</p>

(where nnn = the dial to open location of where the number is stored).

Example 2: Find dial to open location of the telephone number using the last 4 digits of the number **4567**, the following text can be sent to the GSM intercom:

<p align="center">1111FDT"4567"?</p>

The GSM intercom will reply with the following text:

<p align="center">STORED IN nnn
OK
VIDEX GSM</p>

(where nnn = the dial to open location of where the number is stored).

FIND A FOB OR CARD (FDF)

The find a fob or card feature allows the user to search and find the fob/card location (between 000 - 999) of where a proximity fob or card is stored in the GSM intercom. It locates the fob or card using the 5 digit user code printed on the fob (see the following example). The following text message can be used.

1111FDF"nnnnn"?	Find the fob/card location with user code nnnnn, where nnnnn = user code (5 digit user code printed on fob/card).

Example: Find fob/card location of card no. **12345**, the following text can be sent to the GSM intercom:

<p align="center">1111FDF"12345"?</p>

The GSM intercom will reply with the following text:

<p align="center">STORED IN nnn
OK
VIDEX GSM</p>

(where nnn = the fob/card location of where the fob/card is stored).

Programming the GSM Intercom

END ON LAST DIVERT (EOD)

The end on last divert feature allows the GSM intercom to ring each programmed divert number as usual and if the divert number is not answered it will then proceed to ring the next programmed divert number, if however there is no divert number stored the GSM intercom will simply end the call.

By default this feature is disabled (set to 00), but can be enabled (set to 01). The following programming commands can be used to set/check the end on divert function.

1111EODnn	Set end on last divert to nn, where nn = 00 (disabled) or 01 (enabled).
1111EODnn?	Set end on last divert to nn, where nn = 00 (disabled) or 01 (enabled). Also send a confirmation text back to the sender.
1111EOD?	Query the end on last divert status stored in the GSM module.

SHUTDOWN AND RESTART (RBT)

This command feature allows the GSM intercom to be remotely shutdown and then rebooted again. The following command can be sent to the GSM module.

1111RBT	Shutdown and restart the GSM module.

<u>IMPORTANT NOTE:</u> **This feature should not be confused with the 'hard-wired' reset (described on page 33). The RBT function simply powers down the GSM module and then powers it back up again.**

The following commands are reserved for the technical department for interrorgating the GSM module when testing and applying specific additional features that are not covered in this technical manual. For the application of these commands please contact Videx Technical on tel: **0191 224 3174**. For overseas customers please contact Videx customer support on tel: **(+39) 0734 631 699**.

PROGRAM BY 'AT' COMMANDS (PRG)

This is an advanced feature of the system which can allow an 'AT' format command to be sent to the OEM GSM module.

1111PRG(command)	Send an 'AT' command to the OEM module.

AT COMMAND SEND AT START UP (AT1, AT2 AND AT3)

The AT commands **AT1**, **AT2** and **AT3** are advanced commands of the GSM intercom that allows additional features to be incorprated into the module for testing purposes and include additional features for a specific application that is not already covered in this manual. The following commands can be sent to the GSM module.

1111AT1"ATxxxxxx"?	Include any AT command for AT1.
1111AT2"ATxxxxxx"?	Include any AT command for AT2.
1111AT3"ATxxxxxx"?	Include any AT command for AT3.

System Operation

MAKING A CALL AND ANSWERING A CALL FROM THE GSM INTERCOM

When the system is in standby all the LED's (speak, busy and open) on the front of the GSM intercom will be switched OFF, as shown in **Fig.71**.
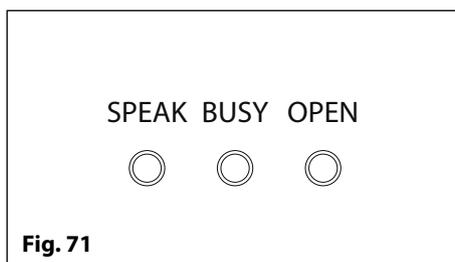
To make a call simply press the call button required. The GSM intercom will emit two beeps and the busy LED will switch ON to indicate a call is in progress and the system is busy, see **Fig.72**.
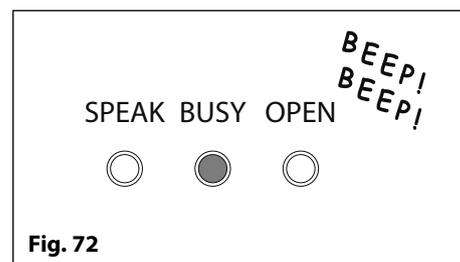
When the call is answered the speak LED will switch ON, as shown in **Fig.73**, and a conversation between the caller and the user can take place.

Please note that the busy LED will stay switched ON for the duration of the call and will switch OFF at the end of a call when either the user hangs up the telephone or if the call time **SPT** expires (also refer to **SPT** notes on page 40).

IMPORTANT NOTE: **If the same button is pressed again after five seconds of placing the initial call this will also clear the call down. Pressing the same button before the five seconds is up will do nothing.**

SPEAK   BUSY   OPEN

Fig. 71

SPEAK   BUSY   OPEN   *BEEP! BEEP!*

Fig. 72

SPEAK   BUSY   OPEN

Fig. 73
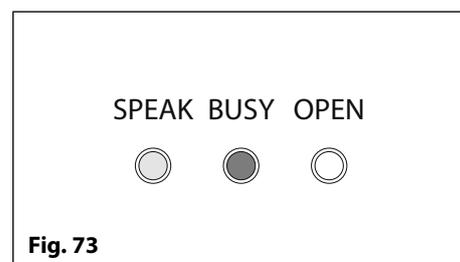
DIVERTED CALL

First make a call from the GSM intercom, as described above. If any divert numbers are programmed and the primary number is not answered the GSM will then dial the divert number(s) after the programmed divert time **DIT** has elapsed (also refer to **STD**, **STE** and **STF** divert number programming on page 39 and **DIT** divert time setup on page 41).

IMPORTANT NOTE: **When the GSM intercom diverts to a programmed divert number there will be a brief pause before the intercom then proceeds to dial the divert number. This is normal behaviour from the GSM module. If the silent dialling mode AUE has been left on default (i.e. silent dialling mode disabled) a normal telephone dial tone will be heard from the GSM's speaker after the brief pause to indicate that the divert number is being called.**

DOOR/GATE RELEASE (INLCUDING LATCHING AND UNLATCHING THE GSM RELAY)

After a call has been answered (either from a direct call or diverted call) to activate the relay to trigger the door/gate press **3** on the telephone. The open LED will switch ON and the GSM intercom will emit a single beep at 1 second intervals for the duration of the relay time **RLT** (refer to relay time **RLT** setup on page 40), as shown in **Fig.74**. After the relay time has elapsed it will then switch OFF.

Pressing **1** followed by **0** will latch the relay (door/gate) in the open position. In this instance the open LED will stay switch ON until the relay has been unlatched. To unlatch the relay press **3** on the telephone and the door/gate will unlatch after the programmed **RLT** time or send the SMS text message **1111RUL** (also refer to unlatch the relay notes on page 43 and the user command table on page 51 for other useful commands).

SPEAK   BUSY   OPEN   *BEEP! BEEP! BEEP! BEEP!*

Fig. 74
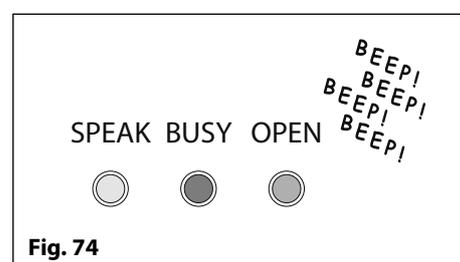
RELEASING THE DOOR/GATE BY DIALLING THE GSM INTERCOM (DIAL IN DOOR RELEASE STR)

Releasing the door/gate by dial in door release **STR** is only possible if the caller's number has been stored correctly for this feature (also refer to store dial to open no. notes on page 40 for correct setup).

Simply dial the mobile number of the SIM in the GSM intercom. The GSM intercom will recognise the stored dial to open number calling and the busy and open LED's will switch ON, as shown in **Fig.75**. The GSM will drop the call and open the gate/door for the programmed **RLT** time, after the relay time has elapsed the busy and open LED's will switch OFF.

SPEAK   BUSY   OPEN

Fig. 75
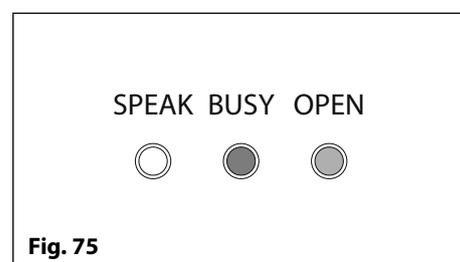
IMPORTANT NOTE: **For this function to operate correctly the stored dial to open number must have any "caller ID" feature or "witheld number" feature switched OFF. If this feature is not switched OFF on the number making the call to the GSM intercom then the GSM module will not recognise the caller's number and simply drop the call and the door/gate will not operate.**

USING A PROXIMITY READER (ONLY APPLICABLE IF AN ART.VR4KPPM READER IS CONNECTED)

In order for the Art.VR4KPPM proximity reader to work correctly it must first be connected to the GSM intercom using the 'plug-in' proximity harness as shown in **Fig.17** on page 22 and the proximity reader enabled (also refer to enable proximity reader **EPR** notes and proximity bytes **PBY** notes on page 46 for correct setup).

Fobs/cards must also be stored in the GSM intercom following the store a fob or card **FOB** programming notes on pages 46 and 47 (programming fobs/cards can also be carried out using the GSMSK PC software, more information on this can be found in the technical manual **GSMSK-66251720-EN-V1-3** (or later version).

PRESENTING A FOB/CARD TO THE READER

When the system is in standby all the LED's (speak, busy and open) on the front of the GSM intercom will be switched OFF. The amber LED on the reader will flash at 5 second intervals to indicate there is power on ther reader, see **Fig.76**.

ACCESS GRANTED

To operate the GSM relay present a programmed fob/card to the proximity reader. The busy LED on the GSM intercom will flash once, the open LED will switch ON and the GSM will emit a single beep at 1 second intervals for the duration of the relay time **RLT**. The access granted LED (middle green LED on the reader) will also switch ON for the duration of the GSM relay time and the reader will emit a single beep, see **Fig.77**.

ACCESS DENIED

If a fob/card is presented to the reader that has not been programmed then the busy LED on the GSM intercom will switch ON for approximately 2 seconds and the GSM will emit a long single beep. The access denied LED (right red LED on the reader) will also switch ON for approximately 2 seconds and the reader will emit a single beep, see **Fig.78**. The GSM's relay will not operate.

<u>IMPORTANT NOTE:</u> **If the proximity reader has not been enabled and a fob/card is presented the reader will not respond (however the amber LED will still continue to flash at 5 second intervals as normal).**

Proximity Reader LED's   GSM module LED's

SPEAK   BUSY   OPEN

Fig. 76

Proximity Reader LED's   GSM module LED's

SPEAK   BUSY   OPEN

BEEP! BEEP! BEEP! BEEP!

Fig. 77

Proximity Reader LED's   GSM module LED's

SPEAK   BUSY   OPEN

BEEEEEEEP!
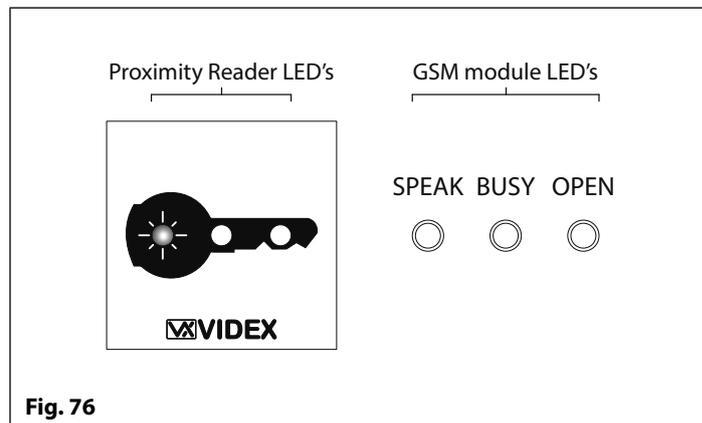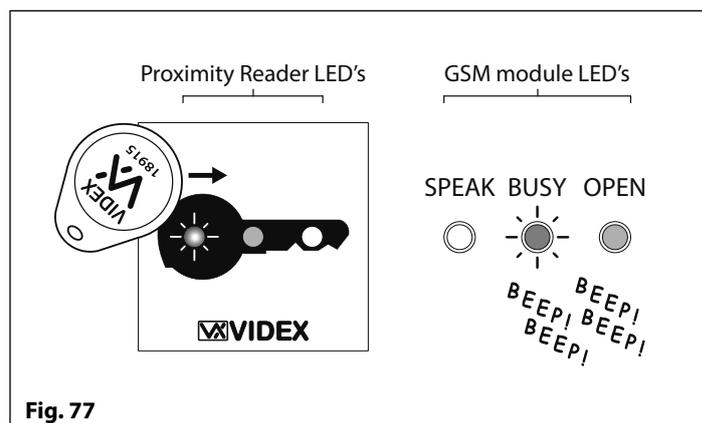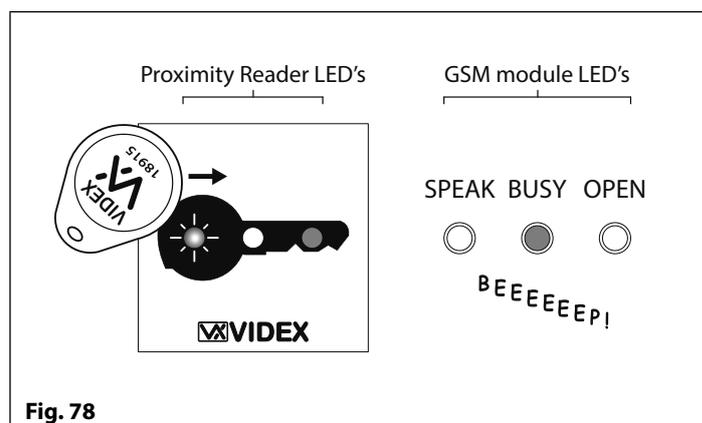
Fig. 78

Additional user operations can be carried out using the commands and/or SMS text messages shown in the user command tables on page 51.

User Commands

USER COMMAND TABLES

The following user command table shows the user commands that can be carried out during a call. Successful commands are signalled by two beeps from the telephone, errors are signalled by four beeps.

<u>IMPORTANT NOTE:</u> **When the ED# function has been enabled the user must press the # button on their phone before pressing any of the following user commands (also refer to page 45 for further information).**

FUNCTION	1st KEY TO PRESS	2nd KEY TO PRESS
Latch the relay (unlatch by pressing 3)	1	0
Release the door or gate	3	n/a
Activate auxiliary output AO[5]	6	n/a
Adjust door speech volume (GSM speaker)	4	0 - 9 (0 = lowest, 9 = highest)
Adjust phone speech volume (GSM mic)	7	0 - 9 (0 = lowest, 9 = highest)

[5] - Activating auxiliary output AO in this way is only possible when **A1M** mode has been set to mode 01 (also see notes on page 41, 'set auxiliary output AO mode') and will operate for the programmed **A1T** time. If the AO output time has been set to latch simply press 6 on the phone to unlatch the output again.

The next user command table shows the SMS text messages that can be sent to the GSM intercom while in standby (the examples shown in the table use the default 4 digit master code 1111).

FUNCTION	MESSAGE TO SEND
Check the signal strength	1111SIG?
Check the available balance[6]	1111BAL?
Check the software version	1111VER?
Release the door/gate	1111RLY? (? optional, send if confirmation is required)
Latch the relay	1111RLA? (? optional, send if confirmation is required)
Unlatch the relay	1111RUL? (? optional, send if confirmation is required)
Activate auxiliary output AO	1111A1O? (? optional, send if confirmation is required)
Latch auxiliary output AO	1111A1L? (? optional, send if confirmation is required)
Unlatch auxiliary output AO	1111A1U? (? optional, send if confirmation is required)
Check Time band setting	1111TBA?
Check Intercom Time and Date	1111CLK?
Check Input Status	1111CHK?
Find a Dial to Open (dial to open) number	1111FDT"yyyyyyyyyy"? (where yyyyyyyyyy = telephone number, minimum of 4 digits, also refer to page 47)
Find a Fob or Card location	1111FDF"nnnnn"? (where nnnnn = 5 digit user code printed on fob/card, also refer to page 47)

[6] - The balance can only be checked if the correct balance check string has been stored (also see **SDL** notes on page 42).

Additional User Information

UNDERSTANDING THE SIGNAL STRENGTH (SIG) AND BIT ERROR RATE (BER)

When a request for signal strength message is sent to the GSM intercom it will reply with a two part code.

The first part of the code is a signal strength code **SIG** which will be between 0 – 31 or 99. Ideally the signal strength should be as close to 31 as possible for the best possible performance. The lower the number, the weaker the signal. Signal strengths lower than 10 may cause operational problems such as loss of speech quality (and possibly missing DTMF tones) and/or network loss. A signal strength of 99 indicates it could not be detected.

The second part of the code is the bit error rate **BER**. The bit error rate is used in digital telecommunication as a figure of merit for how effectively the receiver (in this case the GSM intercom) is able to decode transmitted data (the data in this instance are the various text message commands used to program the GSM intercom, described on pages 38 - 48, speech and DTMF signals used by the GSM intercom for normal operation). It is the percentage of bits that have errors relative to the total number of bits received in a transmission. Ideally the **BER** code should be as close to 0 as possible, the lower the **BER** the better. High **BER** codes can be caused by noise, interference, distortion or bit synchronisation errors over the transmission of data to the GSM intercom and as a result the problems described above (loss of speech quality, possibly missing DTMF tones and/or network loss etc.) can occur.

The example below shows the ideal reply to expect when the signal strength query **1111SIG?** is sent to the GSM intercom:

SIGNAL = 31
BER = 0
OK VIDEX GSM

To achieve the best overall performance from the GSM intercom a high signal strength **SIG** and low bit error rate **BER** is required. In the event that a low signal strength and high bit error rate is recieved it is recommended that the **Art.432** antenna is repositioned, where permissible, at the highest point to achieve the best signal. Where this is not possible an alternative high gain antenna can be used, in particular Videx recommends using the **ANT-GSM-2dB-5M** or **ANT-GSM-2dB-15M** high gain antennas or another suitable GSM antenna with a standard SMA male connector.

DIALLING INTO THE GSM INTERCOM FROM ANOTHER TELEPHONE

There are three possible outcomes to dialling into the GSM intercom depending on the telephone number you are dialling in from and the features setup during programming. The three possible outcomes are shown in the table below and are shown in order of priority. For example, if the number is programmed to automatically activate the relay, this will take priority over the following two options and if the telephone number is stored as a telephone number called from one of the push buttons, this will take priority over the last option.

FUNCTION	REQUIREMENT	PRIORITY
Dial in to open the Door. After dialling the GSM number, the relay will activate and the call will be dropped.	The telephone number of the telephone dialling in must be stored in memory location *(dial to open list)* STR000 - STR999.	**1st**
Dial in to activate a call (live speech, activate relay/ auxiliary AO). After dialling the GSM number, the call will be answered and two beeps will be heard. The speech will then be live.	The telephone number of the telephone dialling in must be stored in memory location: STN001 - STN024 STD001 - STD024 STE001 - STE024 STF001 - STF024	**2nd**
Dial in to open the speech from a telephone number not stored in the GSM intercom. After dialling the GSM number, the call will be answered and two beeps will be heard. You will then be required to enter the 4 digit code to open the speech.	If neither of the two requirements above are met.	**3rd**

UNDERSTANDING THE BEEPS

Functions and errors are indicated by beeps from the GSM intercom panel. The following will help you understand the different beeps heard and what, if anything, needs to be done in response to the beeps.

BEEP	REASON	SOLUTION
Short beeps at 1 second intervals.	Relay or auxiliary output activated.	None, this is normal.
Single short beep while the system is in standby and not being used.	A valid text message has been received and processed.	None, this is normal.
Two short beeps followed by a long beep.	Button pressed but no number stored.	Program a telephone number for the button pressed.
Two long beeps while the system is in standby.	Invalid text message received.	If this has happened when sending one of the programming text messages then check the message for errors. These beeps will also be heard if the 4 digit code in the text message is incorrect. If you are unsure of the 4 digit code, try resetting it to 1111.
Long beep followed by a brief delay then a short beep while the system is in use.	Manually ending a call by pressing a call button.	None, this confirms the call has been cancelled. Another call can be placed if required.
Four long beeps.	Not registered with a network provider but still trying.	Leave it a short while to see if it manages to find the network. If the beeps repeat every 30 seconds then try moving the antenna to a better location or changing the SIM to another network provider.
Six long beeps.	Unknown registering problem.	Try moving the antenna to a better location. Try changing the SIM card to another network provider.
Single short beep every 10 seconds after power up.	Unable to see the SIM card.	Check the SIM card is fitted correctly. Try removing the SIM card, cleaning and fitting again. Try a different SIM card.
PROXIMITY READER (ONLY APPLICABLE IF THE ART.VR4KPPM WIEGAND READER IS CONNECTED AND ENABLED)		
BEEP	REASON	SOLUTION
Successive short beeps lasting for the duration of the relay time.	A programmed fob/card is presented to the proximity reader.	None, this is normal.
Single long beep.	Fob/card presented to the proximity reader **is not** programmed.	Program the fob/card into the GSM intercom making the correct number of bytes is set for the type of fob/card used. Also ensure the proximity reader is enabled.
Single short beep and the proximity reader is unresponsive.	The proximity reader has not been enabled (regardless of whether fobs have or have not been programmed).	Enable the proximity reader.

User Management

RECORD SHEET

In order to manage the GSM intercom effectively it is recommended that an up to date record sheet is kept for all the programming particularly if there is a high volume of telephone numbers and fob/cards stored in the GSM intercom. This will also be useful if any future changes need to be made. The following table format can be used to record the GSM's basic information.

GSM PRO intercom telephone No.	
IMEI number	
Master code (default 1111)	
Master telephone No.	

The table format below can be used to record the call button numbers and the three divert numbers (from 001 to 024).

BUTTON	MEM. LOCATION	TELEPHONE NO.	USER NAME
Button 1	STN001		
Button 1 (divert 1)	STD001		
Button 1 (divert 2)	STE001		
Button 1 (divert 3)	STF001		
⬇	⬇	⬇	⬇
Button 24	STN024		
Button 24 (divert 1)	STD024		
Button 24 (divert 2)	STE024		
Button 24 (divert 3)	STF024		

It is also recommended that a record sheet, following the table format below, of the dial to open **(STR)** numbers should be kept (from 000 to 999).

MEM. LOCATION	TELEPHONE NO.	USER NAME
STR000....STR999		

If the onboard proximity reader is being used it is recommended that a record sheet, following the table format below, of the fob/card **(FOB)** numbers should be kept (from 000 to 999).

MEM. LOCATION	SITE CODE	USER CODE	USER NAME
FOB000....FOB999			

USING THE GSMSK PC SOFTWARE TO MANAGE USER INFORMATION

Because of the high volume of user information that may need to be recorded it is possible to use the GSMSK PC software (version 3.1.0.10 or later) to record and save the user's information as an excel spreadsheet using the **'Export'** feature. The GSMSK software can be used to record and save the call button setup (including divert numbers), the dial to open numbers and the proximity fob/card numbers.

Further information on how to do this can be found in the following technical manual:

- **GSMSK-66251720-EN-V1-3** (or later version)

Troubleshooting

SYSTEM CHECKS AND TESTING

The following table can be used to help diagnose any potential issues that may be occur during installation and the system checks that can be carried out to help resolve them.

SYMPTOM	TEST
Interference on the speech.	Check the signal strength **1111SIG?** (if the signal strength is too low the GSM module increases it's power to compensate, causing interference with the speech circuits). Try relocating the antenna or using a more powerful or directional antenna (e.g. high gain antenna).
	Ensure the antenna cables are not running close to the power supply cables or the microphone wires inside the intercom panel.
	Try a different SIM card from a different service provider as they may have better coverage in that area.
GSM module unresponsive.	Check the power supply has adequate voltage as described earlier in this manual (refer to pages 9 and 30).
	Try a full reset (refer to page 33), powering up with the violet (d) and yellow (6) wires shorted.
	Try a different SIM card.
	The GSM intercom module may have a fault.
A long beep is heard when the button is pressed.	No telephone number setup for that button. Check the programming.
	Check the SIM card is fitted correctly (refer to page 32).
The intercom panel does not respond to SMS messages.	Check the SIM card has an SMS service centre number stored. This will require putting the SIM card into a mobile phone to check. Contact the SIM card provider if you are not sure.
	Check the number you are sending the message to is correct (the mobile number of the SIM card in the GSM intercom panel).
	After sending an SMS message to the GSM intercom listen for a single short beep from the intercom panel. This will indicate that the message was received and understood. If a two long beeps are heard it indicates the message was either not understood or the 4 digit master code was incorrect.
	Try resetting the 4 digit master code to 1111 (refer to page 33), powering up with the blue (c) and yellow (6) wires shorted.
The GSM intercom does not respond to SMS messages, but all other functions appear to operate ok, e.g. DTO feature, adjusting speech volumes, releasing the door/gate when button 3 pressed on the phone etc.	This issue can occur on smartphones where the SMS messaging input method is set to UNICODE. Smartphones generally have 3 input methods: GSM alphabet, Automatic and UNICODE. The UNICODE setting is typically used when emoticons/emojis are used in the message so the GSM will not recognise text messages that are set to this mode.
	Check that the SMS messaging input method setting on the smartphone is **not** set up as UNICODE and is set to either GSM alphabet or Automatic. This can ususally be done via the settings icon on the smartphone. If you are unsure of how to do this Videx recommend consulting with the user's manual that came with the smartphone or consulting directly with the manufacturer of the smartphone.
The call keeps dropping out.	Increase the call time (**SPT**) in programming (refer to page 40).
	Check the signal strength and if necessary, move or change the antenna or try a different SIM card provider.
Speech echoes and feeds back.	Try lowering the speaker volume using the dip-switches on the back of the GSM intercom (refer to page 13).
	Try adjusting the volume using the programmable settings during a call (refer to user commands on page 51).
	Check the microphone is fitted correctly in the intercom panel and that the mic hole is not blocked in any way.

ERROR message returned in SMS when programming or no SMS returned at all even though a ? was included at the end of the message sent.	Check over the message sent again and compare it with the examples in this manual. Common errors include: 1. Using two apostrophe marks side by side instead of ". Note that these look the same in the message. An easy way to see if this is the problem is to move the cursor along in the message and if the cursor can get between the two " then it is not the correct character used. 2. Lower case letters instead of upper case. For example using **stn** when **STN** should be used.
Unable to open the gate/door from the telephone during a call (DTMF tones not being recognised)	If the DTMF tone to release the gate/door (or other DTMF tones shown in the first user command on page 50) does not work then check to see if the **ED#** funtion has been enabled: 1. Send the following SMS command **1111ED#?** to the GSM intercom and wait for a reply confirming the status of this function. 2. **Note:** If the **1111EDZ** function (also see notes on page 45) is set to 01 (enabled) then when answering the call it will be necessary to first press 0 to accept the call before 3 can be used to operate the gate/door. Further notes on how to effectively use this function and on the setup of this function can be found on page 45.
	If the DTMF tones are not working reliably then try the following adjustments: 1. Send the following SMS command **1111AT1"AT#DTMFCFG=8,2500,1500"?** to the GSM intercom and wait for a reply. 2. After receiving the reply send the SMS command **1111RBT** then wait for the GSM intercom to reboot. 3. After the GSM intercom has rebooted test the door opening feature from the telephone during a call.
	If the option above doesn't resolve the issue then try the following: 1. Send the following SMS command **1111AT1"AT#DTMFCFG=7,2300,1300"?** to the GSM intercom and wait for a reply. 2. After receiving the reply send the SMS command **1111RBT** then wait for the GSM intercom to reboot. 3. After the GSM intercom has rebooted test the door opening feature from the telephone during a call.
	If neither of the above solutions resolve the problem then please contact Videx technical on tel: **0191 224 3174** for further assistance. For overseas customers contact Videx customer support on tel: **(+39) 0734 631 699** for further assistance.

General Information

SOFTWARE REVISION

DATE	SOFTWARE VERSION	REVISION
11/09/17	VR3.0.0/2G , VR3.1.0/3G	Launch of Vandal Resistant GSM (Art.150) series.
19/10/17	VR3.0.1/2G , VR3.1.1/3G	Firmware update to include end on last divert feature (**EOD**).

FURTHER READING

Additional programming information using the GSMSK PC software can be found in the following technical manual:

- **GSMSK-66251720-EN-V1-3** (or later version)

Additional programming information using the **Art.VR4KDM** can be found in the following technical manual:

- **UIM-138 Display Module Manual - Technical Manual Edition 1.0** (or later version)

Additional programming information using the **Art.701T** timeclock can be found in the following technical manual:

- **66250340-701T-EN-V1-1**

Additional information regarding connection to mains supply voltage can be found in the following regulations (for the UK only):

- **I.E.E. Wiring Regulations BS7671**

Notes

Notes

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